Request for Proposals & Project Manual for General Contractor Services for the Lathrop House Relocation Project



County of San Mateo Project Development Unit

Issued: May 23, 2018 Responses due: June 27, 2018 at 2:30pm

Sam Lin, Manager County of San Mateo Project Development Unit 1402 Maple Street Redwood City, CA 94063

Email: slin@smcgov.org

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NOTICE INVITING PROPOSALS

ARTICLE I – INVITATION TO SUBMIT PROPOSAL

1.01. Notice Inviting Proposals

- A. San Mateo County ("Owner" or "County") invites responses to this "Request for Proposals" ("RFP") from qualified General Contracting firms ("Proposers") interested in contracting with the County to provide General Contractor ("GC" or "Contractor") services for the Relocation of the Lathrop House currently located at 627 Hamilton Street, Redwood City, California ("Project"). The Lathrop House will be relocated to 701 Hamilton Ave, Redwood City, California behind the San Mateo County Historical Museum. The Lathrop House is currently listed on the National Register of Historical Places and shall remain on the list after the relocation has been completed. It is strongly encouraged for GCs to have experience within their team in the relocation of existing structures and/or historical buildings.
- B. General Contractors responding to this invitation that DO NOT have experience in the preparation, relocation and physically attaching an existing structure and/or historic structure to a permanent foundation will be required to provide complete qualifications of the proposed firm to do scope activities related to the detachment, relocation and reattachment of the House when answering this request. Proposals received without the aforementioned experience may be considered to be non-responsive by the County.
- C. Proposer must submit one (1) original, signed Proposal, together with five (5) additional bound copies, and one (1) electronic copy on a flash drive to be delivered in a sealed package labeled on the cover "Proposal for General Contracting for the Lathrop House Relocation Project" no later than 2:30 pm on June 27, 2018 to Sam Lin, Manager, San Mateo County Project Development Unit, 1402 Maple Street, Redwood City, CA 94063, Email: slin@smcgov.org.
- D. Proposals received late will not be opened or given any consideration and will be returned to Proposer(s) unopened. It is the responsibility of the Proposers to ensure submittals are received at the specified address by the specified deadline noted in this proposal request. All proposals will be date and time stamped upon receipt. The County will not be responsible for late or incomplete responses due to weather or mistakes or delays of the Proposer or its carrier.
- E. Architectural and subconsultant drawings for this project can be found in Exhibit 1, which precedes Division 33 at the end of this Document.
- F. Proposers should read the entire RFP and all enclosures before preparing proposals. Proposers should seek clarification of requirements they do not fully understand. Respondents should submit in writing any issue or questions no later than June 13, 2018 at 5:00 pm via email to Sam Lin, PDU Manager at <u>slin@smcgov.org</u> and Sam Garcia, PDU Project Manager at <u>sam.garcia@vanir.com</u>.

1.02 Project Description and Scope

- 1) The Project is comprised of the following Project Components as described below:
 - a) <u>Submittals/Pre-Construction Activities</u>
 - i. Upon the County Issuance of the Project's Notice to Proceed the GC shall immediately prepare and submit all contractual related submittals for review and approval to the County. All activities

pertaining to this section shall be completed within the first 30 calendar days from issuance of the Notice to Proceed. Other activities that are required but not limited to:

- 1) Submission of all contract related submittals
- 2) Prepare and submit to the County for approval a Critical Path Method Project Schedule. Schedule must be created and updated using Microsoft Project scheduling software.
- 3) Prepare, submit and obtain approval from the County a Schedule of Values (SOV) to be utilized for payment measurements. The SOV shall be submitted in CIS format.
- 4) Identify any long lead items that will have a challenging procurement.
- 5) Identify any substitution requested. Substitutions requested shall be provided in accordance with Document 00 7200. Substitutions that are submitted that are not in compliance with the Document 00- 7200 will not be considered.
- 6) Conduct Pre-installation Meeting(s) as required with all trades performing work of the project prior to them executing their scope. The meetings shall be schedule at least two weeks prior to the start of their work. The County and Architect shall be in attendance for each individual meeting.
- 7) Submit, coordinate, procure and obtain approvals/permitting from the authorities having jurisdiction as required to facilitate the relocation, installation of utilities and construction of all scope required by this contract. The County will provide County Project Building Permit. GC to be responsible for any trade permits required for installation, encroachment, street closure or traffic light signal removal/reinstall.

b) <u>Preparatory Scope for Relocation Activities (Existing/Donor Site)</u>

- i. The relocation will require carefully detailed planning to assure the House is not damaged during the relocation process. The GC will be expected to provide project management services, site supervision and resources as needed to successfully complete the needed work. The anticipated activities shall include but not be limited to:
 - Provide and install temporary site fencing around the perimeter of the existing site. Fencing shall have a lockable double vehicular gate and lockable man gate. The GC shall submit to the County for approval a layout drawing of the fencing prior to placement.
 - 2) Selected demolition as required to achieve scope. All demolition shall be approved by the owner prior to the start of the work.
 - 3) Abatement as required to achieve required scope.
 - 4) Removal and potentially salvage of stairs and decks as indicated on the drawings. GC may elect to replace the stairs in kind at the new location.
 - 5) Miscellaneous installation of materials for protection throughout the House.
 - 6) Remove and salvage to reuse exterior perimeter skirting. Skirt to be re-installed at the new location.
 - 7) Disconnect, demolish and safe-off all existing utilities. Existing utilities remaining to be secured in below grade vaults.
 - 8) Limited landscape removal.
 - 9) General site clean-up and ensure the site is free of safety hazards.

c) <u>Preparatory Scope at the New Location (New/Receiver Site)</u>

- i. The work required at the new site is anticipated to be executed concurrently with the scope required at the existing site. Although, the GC will be responsible for the means and methods of construction, the County will not provide permission to move the House until the preparatory work for the Receiver Site has been completed and approved by the County or their appointed agent. The anticipated activities shall include but is not limited to:
 - 1) Temporary site fencing
 - 2) Removal of AC pavement as indicated on the drawings.
 - 3) Installation of underground utilities required for the House (storm and sanitary sewer, domestic water and electrical (low and high voltage).

- 4) Subsurface preparation as required.
- 5) Installation of concrete footings (stem walls for foundation shall be completed once the House is in its final location).
- 6) Limited landscape removal (to facilitate the relocation)
- 7) Obtain all approvals as required from authorities having jurisdiction for all related prior to moving of the house.

d) Lathrop House Relocation Scope (during actual move process)

- i. After the GC has successfully achieve the required preparatory work as stated above and has received approval from the County to move the House the GC will transfer the house from the existing to the new site. The actual move will be required to be conducted at night (after hours) and the path of travel must be operational and completely functional as required by the authorities having jurisdiction prior to the next workday. Other anticipated activities for this portion shall include by not limited to:
 - 1) Provide adequate and qualified safety personnel to aid in the relocation process during the actual moving of the House (competent safety leaders and flagmen) while the building is prepared and transferred to the new site.
 - 2) After removal of the House from the existing site the GC shall make sure that all utilities are left in a safe manner.
 - 3) The CG will be required to provide "Stand by" personnel to remove and reinstall traffic signals and other items to ensure the path of travel is free of obstructions and the move process is achieved.
 - 4) The GC shall ensure the House is adequately braced and supported once at the new location. The bracing shall carry the load of the building prior to placement of the stem wall to complete the foundation.

e) Scope Required to Complete the Project (after the physical relocation has occurred)

- i. After the physical move has been achieve to the new site the GC will diligently work to complete the remaining scope of work.
 - 1) Provide continual monitoring of the temporary shoring, bracing and support system of the House prior to completion of the foundation activities.
 - 2) Place the concrete stem wall to complete the foundation and secure the House as required to the new foundation. Remove all temporary bracing.
 - Complete MEP connections, all electrical, water and sewer connections shall be completed, tested, inspected by the authorities having jurisdiction and operational for use.
 Install evicting parely and stairs or construct pays units in kind.
 - 4) Install existing porch and stairs or construct new units in kind.
 - 5) Install ramping, hardscape and all other ADA accessibility scope as indicated on the drawings.
 - 6) Conduct and document a detailed inspection of the entire House (interior and exterior) with the County and Architect to identify any damage or items to be repaired prior to installation of ay wood construction/drywall/plaster/finishes. Additional abatement and demolition may be required.
 - 7) Perform framing and other trades activities as required within the contact documents.
 - 8) Install all finishes as indicted and in accordance with the contract documents.
 - 9) Apply interior paint and install wallpaper as required.
 - 10) Complete Paint of the exterior of the House. Repair areas as indicated with Item #6 (above).
 - 11) Install final landscaping, irrigation, and site fencing as required within the construction documents.
 - 12) Obtain any needed encroachment permits required from the City of Redwood City to remove concrete at existing drive way on Hamilton Street and replace with curb and gutter as indicated within the contract documents. GC to coordinate all work with all authorities having jurisdiction.

- 13) Patch AC pavement as indicated, resurface remain parking area and restripe as indicated within the contract documents.
- 14) Coordinate and obtain approval for final inspections for all authorities having jurisdiction.
- 2) The selected GC will be responsible to achieve the completion all scope as directed within the contract documents no later than **one hundred two calendar days (102)** after the issuance of the Notice to Proceed. The selected GC will be responsible for scheduling and executing all of the work within the duration provided above utilizing the intermediate milestones provided by the County below:
 - a. Submittals All required contract submittals shall be submitted no later than 30 calendar days after the Notice to Proceed has been issued, The submittal process must be completed prior to moving the House.
 - b. Actual relocation/moving of the house The County anticipates the actual moving of the House to occur during the nighttime hours of the week of August 20-24, 2018.

3) The estimated construction budget for this Project is approximately \$750,000 (Seven Hundred Fifty Thousand Dollars).

1.03 Request for Proposal Documents

A. Request for Proposal Documents contain the full description of the Work and the Contract Documents for the Work. Updates to this RFP will be posted on the PDU project website at https://cmo.smcgov.org. Proposers should check this regularly to make sure all notifications including addendum/addenda are read promptly.

ARTICLE II – INSTRUCTIONS FOR PROPOSALS

2.01. Instructions

- A. Proposers shall refer to Document 00 2001 (Instructions for Proposals) for required documents and items to be submitted in sealed envelopes to the San Mateo County Project Development Unit Office, located at 1402 Maple Street, Redwood City, CA 94063, no later than the time and date set forth in paragraph 1.01 above.
- B. Document 00 2001 (Instructions for Proposals) sets forth terms and conditions for development, preparation, receipt, review, and evaluation of proposals for the Project.
- C. Each Proposer must submit Proposals in accordance with this Document 00 1001.

2.02. Selection Criteria

- A. The County will select the lowest responsive proposal for this request in accordance with the Public Contract Code.
- B. Please pay special attention Article 1 for special qualifications pertaining to experience in moving historical structures. Proposers without provide the qualifications may be deemed non-responsive by the County.

2.03. Mandatory Pre-Proposal Conference

A. **Mandatory Pre-Proposal Conference** will be held on **June 7**, **2018** at the Lathrop House located at 627 Hamilton Street in Redwood City, California to review the information about the Project and this RFP. The conference will begin at 10:00 am and should conclude by 12:00 pm. As a courtesy.

please notify the Project Manager via email at sam,garcia@vanir.com respectively by 5:00 pm on **June 5, 2018** if you plan on attending.

2.04. Proposal Preparation Cost

A. Proposers are solely responsible for the cost of preparing their Proposals.

2.05. Reservation of Rights

A. Owner specifically reserves the right, in its sole discretion, to reject any or all Proposals, to re-issue a Request for Proposals, or to waive minor or inconsequential defects in proposals.

ARTICLE III – LEGAL REQUIREMENTS

3.01. Required Contractor's License(s)

A. An active California "B" contractor's license is required to submit a proposal for this contract. Joint ventures must secure a joint venture license prior to award of this Contract.

3.02. Substitution of Securities

A. Owner will permit the successful proposer to substitute securities for any retention monies withheld to ensure performance of the contract, as set forth in Document 00 6801 Escrow Agreement For Security Deposit In Lieu Of Retention and incorporated herein in full by this reference, in accordance with Section 22300 of the California Public Contract Code.

3.03. Restrictions on "Or-Equal" Substitutions

A. As a limitation on Proposer's privilege to substitute "or equal" items, Owner has found that certain items are designated as Owner standards or designated to match existing items in use on a particular public improvement either completed or in the course of completion, or are available from one source. As to such items, Owner will not permit substitution. Such items will be developed in pre-construction services.

3.04. Prevailing Wage Laws

A. The successful Proposer must comply with all applicable prevailing wage laws, and related requirements in the Contract Documents. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the California Department of Industrial Relations, are on file at Owner's Office and are deemed part of the Request for Proposal Documents. Upon request, Owner will make copies available. The successful Proposer shall post applicable prevailing wage rates at the Site.

3.05. Skilled Labor Force Availability

A. The successful Proposer must satisfy the requirements for "skilled labor force availability" as defined in California Public Contract Code Section 20193(d)(4)(B)(v) and agree to comply with the terms and conditions of Owner's Project Labor Agreement and California Public Contract Code Section 20146.

INSTRUCTIONS FOR PROPOSALS

Proposals are requested by the San Mateo County Project Development Unit (hereinafter "**Owner**", "**County**" or "**PDU**") for a general construction contract, or work described in general, as set forth in Document 00 1001 (Notice Inviting Proposals), and the following additional terms.

ARTICLE I – NOTICE OF PROCEEDING UNDER PUBLIC CONTRACT CODE SECTION 20146 AND REQUIREMENTS THEREUNDER

- A. Proposers are hereby notified that the County is conducting this procurement under Public Contract Code Section 20146, providing counties with authority to utilize Construction Manager at-Risk construction contracts.
- B. County will receive proposals from either an individual, partnership, joint venture, corporation, association, or other recognized legal entity, that is appropriately licensed in this State.
- C. County will base the selection and award of this contract based on its determination of "best value" according to objective criteria related to the experience of the entity and project personnel, project plan, financial strength of the entity, safety record of the entity, and price.
- D. Subcontractors that are not listed by the successful General Contractor as partners, general partners, or association members in a partnership, limited partnership, or association in the entity's Construction Manager at-Risk bid submission shall be awarded by the General Contractor in accordance with the process set forth in the Contract Documents. All subcontractors bidding on contracts pursuant to this section shall be afforded the protections contained in Chapter 4 (commencing with Section 4100) of Part 1.

ARTICLE II – REQUIREMENTS FOR SUBMISSION OF PROPOSALS

2.01. Mandatory Pre-Proposal Conference

- A. Owner will conduct a Pre-Proposal Conference at the date, time and location indicated in Document 00 1001 (Notice Inviting Proposals). It is mandatory that Proposers attend the Pre-Proposal Conference.
- B. Proposers are encouraged to visit the Site before submission of Proposals and should use it as an opportunity to become familiar with conditions at the Site. Organized Pre-Proposal Site Visits may be scheduled at Owner's sole discretion.
- C. Owner will issue a Pre-Proposal Conference Agenda and roster of attendees, which are not Contract Documents. Any changes to the Contract Documents or Proposal documents shall be made by written Addenda posted on the PDU project website at https://cmo.smcgov.org/Lathrop-documents.

2.02. Required Pre-Proposal Review

- A. Prior to submission of Proposal, Proposer must conduct a careful examination of the Request for Proposals Documents (that include without limitation, the Contract Documents) and understand the nature, extent, and location of Work to be performed. Refer to Document 00 7200 (General Conditions) on required Pre-Proposal investigations, and Document 00 3020 (Geotechnical Data and Existing Conditions) for certain conditions.
- B. Submission of a Proposal shall constitute a Proposer's representation and warranty that it has complied with all required Pre-Proposal Review Requirements.

2.03. Questions and Answers

A. As set forth in Document 00 1001 (Notice Inviting Proposals), Proposers must direct to Owner in writing and all questions about the meaning or intent of Request for Proposals Documents (to include without limitation, the Contract Documents). Interpretations or clarifications considered necessary by Owner in response to such questions will be issued by written Addenda and posted on the PDU project website at https://cmo.smcgov.org/Lathropcob3-documents. Owner may not answer questions received after the date set forth in paragraph 1.01 of Document 00 1001.

- B. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect, and Proposers shall not rely on oral statements. Owner reserves the right not to respond to questions received after the date set forth in paragraph 1.01 of Document 00 1001.
- C. Prior to submission of a Proposal, Proposer must communicate in writing to Owner any objections, questions or asserted ambiguities regarding the terms, conditions and procedures set forth in the Proposal Documents (including without limitation this Document 00 2001); submission of a Proposal shall constitute Proposer's consent to such terms, conditions and procedures and waive any right to subsequently assert such matters in protest of the final award.

2.04. Addenda

A. Addenda may also be issued to modify the Request for Proposal Documents as deemed advisable by Owner. Addenda shall be acknowledged by number in Document 00 4001 (Proposal Price Form) and shall be part of the Contract Documents. A complete listing of Addenda may be secured from Owner.

ARTICLE III – RECEIPT OF PROPOSALS

3.01. Date and Time

A. Sealed Proposals will be received by Owner until date and time indicated in Document 00 1001 (Notice Inviting Proposals). All Proposal envelopes will be time-stamped to reflect their submittal time. Owner shall reject all Proposals received after the specified time and will return such Proposals to Proposers unopened.

3.02. Required Contents of Proposals

- A. Proposers must submit Proposals in accordance with this Document 00 2001. Proposals must contain the Required Contents specified below.
- B. <u>Document 00 4001 (Proposal Price Form)</u>. Proposers must submit Proposals on Document 00 4001 (Proposal Price Form) in accordance with the provisions of Document 00 4001. Proposers must complete all Proposal items and supply all information required by Request for Proposals documents and specifications.
- D. <u>Statement of Proposer's Proposed Staffing Plan</u>. Proposer must submit Document 00 4514 (Statement of Proposer's Proposed Staffing Plan) for the Project, including resumes, for at least the following proposed key personnel: Principal in-charge, Project Manager and Construction Superintendent and other Key Personnel with expertise to perform the required services. Please identify all personnel with experience and expertise with the relocation of Historical Structures.
- G. Balance of Required Contents: Insurance and Certifications.
 - Letter from Surety. Proposer should provide a letter from a surety duly licensed to do business in the State of California, having a financial rating from A. M. Best Company of A-,VII or better, confirming that surety has agreed to provide Contractor with performance and payment bonds in accordance with the requirements set forth in the Contract Documents 00 6113.12 (Construction Performance Bond) and 00 6113.18 (Construction Labor and Material Payment Bond), with minimum penal sums in the amount of 100% of the final Proposal Price and as adjusted upon final subcontractor bidding and award to reflect the Guaranteed Maximum Price.
 - 2. <u>Document 00 4810 (Non-Collusion Affidavit</u>). Proposers must submit Document 00 4810 (Non-Collusion Affidavit) completed in accordance with its provisions.
 - 3. <u>Document 00 4820 (Proposer Certifications)</u>. Proposers must submit Document 00 4820 (Proposer Certifications) completed in accordance with its provisions.

3.03. Proposal Submission

- A. The responses to this RFP should be bound and printed vertically ("portrait" orientation) on standard 8 ½" by 11" papers. The top of page one of the response should state Respondent's name, address, phone, fax, e-mail, and contact name. Cover letter is optional.
- B. Proposers should address every item requested, where requested, in each section of this RFP, even if the items were addressed in other sections in the proposals. Brevity and clarity are of utmost importance. Responses comprised of standard marketing materials that do not specifically address the items below will not be evaluated.
- C. Proposers shall submit their Proposals and all deliverables in a manner that is structured to permit easy and definitive evaluation.
- D. Proposals shall be deemed to include any written responses of a Proposer to any questions or requests for information of Owner made as part of the Proposal evaluation process after submission of the Proposal.
- E. Proposals must be full, complete, clearly written and using the required forms. Proposers shall make any change in the Proposal by crossing out the original entry, entering and initialing the new entry. Proposer's failure to submit all required documents strictly as required entitles Owner to reject the Proposal as non-responsive. All Proposers must submit Proposals containing each of the required documents supplied in this Project Manual.

ARTICLE IV – PROPOSAL OPENING AND EVALUATION

4.01. Initial Evaluation for Patent Defects and/or Proposals Not Meeting the Responsibility Criteria

- A. Owner will open the Proposals and perform a preliminary review to identify any patently defective Proposals (including without limitation Proposals where the Proposer does not meet any applicable requested criteria.) Owner's action on defective Proposals may include refusal to evaluate such Proposals and elimination of Contractor submitting such Proposals from the evaluation process. Owner reserves all rights to take any action consistent with its authority and/or the requirements of this Document 00 2001 (Instructions for Proposals), including, without limitation, requesting additional information after receipt and opening of Proposals and waiving inconsequential defects.
- B. All Proposals from Contractor which remain after the preliminary review shall be evaluated by a Selection Committee comprised of individuals selected by the Owner.

4.02. Owner Investigations, Discrepancies and Tie Breaker

- A. Owner may conduct reasonable investigations and reference checks of Proposer and other persons and organizations as Owner deems necessary to assist in the evaluation of any Proposal and to establish Proposer's responsibility, qualifications, financial ability and ability to perform the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time. Submission of a Proposal constitutes Proposer's consent to the foregoing.
- B. Owner shall have the right to consider information provided by sources other than Proposer. Owner shall have the right to communicate directly with Proposer's surety regarding Proposer's bonds.
- C. <u>Discrepancies</u>. Owner will resolve discrepancies between (1) the multiplication of units of Work and unit prices in favor of the unit prices; (2) the indicated sum of any column of figures and the correct sum thereof in favor of the correct sum; and (3) written words and figures, or words and numerals, in favor of the words.
- D. <u>Tie Breaker</u>. In an event there is then a tie in the proposed pricing submitted it is in the Owner's sole discretion is determined who the project will be awarded to.

ARTICLE V – AWARD

5.01. Notice of Intent to Award

A. If the Contract is to be awarded, Owner will award the Contract to the lowest responsive Contractor whose Proposal is determined to meet the requirements of the request. Owner shall provide its written decision and award within **ninety (90)** calendar days of Proposal submission. Owner's

The Lathrop House Relocation Project Project Manual May 2018 written decision shall support the award of the Contract by stating in detail the basis of the award. Owner will deliver **Document 00 5105 (Notice of Award)** as provided herein.

5.02. Determination of Lowest Responsive Proposal

A. Upon completion of Owner's evaluation of all Proposals, Owner shall select the General Contractor that is deemed to be the Lowest Responsive Proposer base on the lowest proposed cost for this request, Providing the Contractor has responded to this request in a manner the successfully addresses all of the requirements of this request. The Owner. Owner shall publicly announce its intent to award the Contract for the Project by issuing Document 00 5051 (Notice of Intent to Award), and by posting Document 00 5105 (Notice of Award) on Owner's website and by electronically mailing it to the Contractors who submitted Proposals for this Project. Document 00 5105 will be deemed properly delivered at the time it is posted on the Owner's website.

ARTICLE VI – MANDATORY PROPOSAL PROTEST PROCEDURES

6.01. Submission of Written Proposal Protest

- A. Any proposal protest in connection with the CMR contract or work described in general in Document 00 1001 (Notice Inviting Proposals) must be submitted in writing to Deborah Bazan, Director, Project Development Unit, 1402 Maple Street, Redwood City, California (Owner's Office), before 3:00 P.M. of the fifth Business Day following issuance of Document 00 5051 (Notice of Intent to Award). Owner will publish on PDU website and use reasonable efforts to deliver by e-mail a copy of Document 00 5051 to all Proposers who submitted Proposals no later than the Business Day after issuance, although any delay or failure to do so will not extend the Proposal protest deadline described above.
- B. The initial protest document must contain a complete statement of the basis for the protest.
- C. The protest must refer to the specific portion of the document that forms the basis for the protest.
- D. The protest must include the name, address, and telephone number of the person representing the protesting party.
- E. Only Proposers whom the Owner otherwise determines are responsive and responsible are eligible to protest a Proposal; protests from any other Proposer will not be considered. In order to determine whether a protesting Proposer is responsive and responsible, Owner may evaluate all information contained in any protesting Proposer's Proposal and conduct the same investigation and evaluation as Owner is entitled to take regarding a Best Value Proposer.
- F. Notwithstanding any other provision of this Article VI, the party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other Proposers who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.

6.02. Exclusive Remedy

A. The procedure and time limits set forth in this paragraph are mandatory and are Proposer's sole and exclusive remedy in the event of Proposal protest. Proposer's failure to comply with these procedures shall constitute a waiver of any right to further pursue the Proposal protest, including presenting a Government Code Claim or initiating legal proceedings. A Proposer may not rely on a protest submitted by another Proposer, but must timely pursue its own protest.

ARTICLE VII – AWARD AND EXECUTION OF CONTRACT

7.01. Notice of Award and Submittal of Executed Contract Documents

A. If Contract is to be awarded, it will be awarded to the Lowest Responsive Proposer. Owner will issue Document 00 5105 (Notice of Award) to the successful Proposer. Such Award, if made, will be made within ninety (90) Days after the opening of Proposals.

B. Successful Proposer must execute and submit to Owner the "Required Contract Documents and Proof of Insurance" set forth below, by 5:00 pm of the 10th Day following issuance of the Notice of Award to it.

7.02. Required Contract Documents and Proof of Insurance

- A. <u>Document 00 5201 (Agreement)</u>, fully executed by successful Proposer. Submit four (4) originals, each bearing an original signature and initials on each page.
- B. <u>Document 00 6301 (Guaranty)</u>, fully executed by successful Proposer. Submit four (4) originals, each bearing an original signature and initials on each page.
- C. <u>Insurance certificates and endorsements required by Document 007311 (Insurance and Indemnification)</u>: Submit one (1) original set.
- D. Any other item required by Document 00 5105 (Notice of Award). As indicated therein.

7.03. Failure to Execute and Deliver Documents

- A. If Proposer to whom Contract is awarded, within the period described in this Document 00 2001, fails or neglects to execute and deliver all required Contract Documents and file all required bonds, insurance certificates, and other documents, Owner may, in its sole discretion, rescind the award.
- B. Upon such failure to timely deliver all required Contract Documents as set forth herein, Owner may determine the next Lowest Responsive Proposer and proceed accordingly. Such Award, if made, will be made within sixty (60) days after such failure.

7.04. Conditions to Construction

- A. The Notice to Proceed will be issued separately for the scope of work related with this request once the all required contract documents have been successfully executed and accepted by the County.
- B. In addition to other Contract Documents requirements, following the completion of competitive bidding of all subcontracts and before commencement of construction, General Contractor must submit the following:
 - 1. <u>Document 00 6113.12 (Construction Performance Bond)</u>, fully executed by successful Proposer and surety, in the amount set forth in Document 00 6113.12. Submit one (1) original.
 - Document 00 6113.18 (Construction Labor and Material Payment Bond), fully executed by successful Proposer and surety, in the amount set forth in Document 00 6113.18. Submit one (1) original.

ARTICLE VIII – GENERAL CONDITIONS AND REQUIREMENTS

8.01. Modification of Commencement of Work

- A. Owner expressly reserves the right to modify the date(s) for the Commencement of Work or any portion thereof under the Contract and to independently perform and complete work or services related to Project. Owner accepts no responsibility to Proposer for any delays attributed to Owner's need to complete independent work at the Site.
- B. Owner shall have the right to communicate directly with the Proposer's performance bond surety, to confirm the performance bond. Owner may elect to extend the time to receive faithful performance and labor and material payment bonds.

8.02. Wage Rates and Skilled and Trained Workforce

A. Copies of the general prevailing wage rates for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, may be obtained from the Department of Industrial Relations. Also, Proposer shall post the applicable prevailing wage rates at the Site. By submission of this Proposal, Proposer agrees to comply with the terms and conditions of Owner's Project Labor Agreement and makes an enforceable commitment to use and ensure the use of a skilled and trained workforce as required by California Public Contract Code Section 20146(c)(1).

8.03. Withdrawal of Proposals

A. Proposers may withdraw their Proposals at any time prior to the Proposal opening time fixed in this Document 00 2001, only by written request for the withdrawal of Proposal filed with Owner at Owner's Office. Proposer or its duly authorized representative shall execute the request to withdraw Proposal.

8.04. Ineligible Contractors and Subcontractors

- A. Owner shall not accept a Proposal from a Proposer who is ineligible to propose or work on, or be awarded, a public works project pursuant to California Labor Code section 1777.1 or 1777.7. Proposers and the Contractor who is awarded the project contract shall not utilize, or allow work by, any subcontractor who is ineligible to propose or work on, or be awarded, a public works project pursuant to California Labor Code section 1777.1 or 1777.7. (See California Public Contract Code section 6109.) The California Division of Labor Standards Enforcement publishes a list of debarred contractors and subcontractors on the Internet at www.dir.ca.gov/DLSE/debar.html.
- **8.05. Equal Employment Opportunity.** General Contractor shall comply with all applicable federal, state, and local laws, rules, and regulations in regard to nondiscrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical conditions, disability, or other reasons.

8.06. Public Records Act Requests

- A. Pursuant to the Public Records Act, Owner will make available to the public all correspondence and written questions submitted during the Proposal period, all Proposal submissions opened in accordance with the procedures of this Document 00 2001, and all subsequent Proposal evaluation information. All submissions not opened will remain sealed and eventually be returned to the submitter. Except as otherwise required by law, Owner will not disclose trade secrets or proprietary financial information submitted that has been designated confidential by a Proposer. Any such trade secrets or proprietary financial information that a Proposer believes should be exempted from disclosure shall be specifically identified and marked as such. Blanket-type identification by designating all pages or whole sections shall not be permitted and shall be invalid. The specific information must be clearly identified as such.
- B. Upon a request for records regarding this Proposal, Owner will notify Proposer involved within ten (10) Days from receipt of the request of a specific time when the records will be made available for inspection. If Proposer timely identifies any "proprietary, trade secret, or confidential commercial or financial" information that Proposer determines is not subject to public disclosure, and requests Owner to refuse to comply with the records request, Proposer shall take all appropriate legal action and defend Owner's refusal to produce the information in all forums; otherwise, Owner will make such information available to the extent required by applicable law, without restriction.
- C. Information disclosed to Owner and all items in opened submissions are the property of Owner unless Proposer makes specific reference to data that is considered proprietary. Subject to the requirements in the Public Records Act, reasonable efforts will be made to prevent the disclosure of information except on a need-to-know basis during the evaluation process.

8.07. Substitutions

- A. Proposers must base their Proposals on products and systems where specified in the Contract Documents where applicable.
- B. Owner may consider specifications final upon Contract award, however, and will consider substitutions following award in its sole discretion.

8.08. Reservation of Rights

A. Owner reserves the right to reject any or all nonconforming, non-responsive, unbalanced, or conditional Proposals, and to reject the Proposal of any Proposer as non-responsive as a result of any error or omission in the Proposal, or if Owner believes that it would not be in the best interest of the Project to make an award to that Proposer, whether because the Proposal is not responsive

The Lathrop House Relocation Project Project Manual May 2018 or the Proposer is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. For purposes of this paragraph, an "unbalanced Proposal" is one having nominal prices for some Cost items and enhanced prices for other Cost items.

- B. Owner may retain Proposal securities and Proposal bonds of other than the Best Value Proposer for a reasonable time, not exceeding ninety (90) Days after award of Contract. Owner may reject any or all Proposals and waive any informalities or minor irregularities in the Proposals. Owner also reserves the right, in its discretion, to reject any or all Proposals and to re-Proposal the Project.
- **8.09.** Modification/ Addition to Instructions for Proposals. Owner reserves the right to modify existing procedures and instructions and will notify all Proposers if Owner exercises this right.

8.10. Definitions

A. All abbreviations and definitions of terms used in this Document 00 2001 are set forth in Document 00 7200 (General Conditions) and Document 01 4200 (References and Definitions).

ARTICLE IX- ANTICIPATED SCHEDULE OF EVENTS FOR THE RFP PROCESS

Project Development Unit Issues RFP	5/23/18
Pre-Proposal Conference (Mandatory)	6/7/18
Questions via email due: 5:00 pm	6/13/18
Responses to Questions Posted to Webpage	6/20/18
Proposal due: 2:30 pm	6/27/18
Notice of Intent to Award Posted	6/29/18
Board Approval	7/10/18

PROPOSAL PRICE FORM TO THE COUNTY OF SAN MATEO PROJECT DEVELOPMENT UNIT

THIS PROPOSAL IS SUBMITTED BY:

(Firm/Company Name)

Re: THE LATHROP HOUSE RELOCATION PROJECT

- 1. The undersigned Proposer proposes and agrees, if this Proposal is accepted, to enter into an agreement with SAN MATEO COUNTY (Owner) in the form included in the Contract Documents, including Document 00 5201 (Agreement), to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Proposal and in accordance with all other terms and conditions of the Contract Documents.
- 2. Proposer accepts all of the terms and conditions of the Contract Documents, Document 00 1001 (Notice Inviting Proposals), and Document 00 2001 (Instructions for Proposals). This Proposal will remain subject to acceptance for Ninety (90) Days after Proposal opening.
- 3. In submitting this Proposal, Proposer represents that Proposer has examined all of the Contract Documents, performed all required Pre-Proposal Review, received the Pre-Proposal conference minutes (if any), and received the following Addenda:

Addendum Number	Addendum Date	Signature of Proposer	

4. Based on the foregoing, Proposer proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of money listed in the following Schedule of Proposal Prices:

SCHEDULE OF PROPOSAL PRICES

All Cost items, including lump sums and unit prices, must be filled in completely. Cost items are described or referenced in Document 01 1000 (Summary of Work) or Document 00 2001 (Instructions for Proposals). Quote in figures only, unless words are specifically requested. You can download a copy of this Proposal Price Form and the forms in the Appendices in Excel from this link - https://bit.ly/2IGF6Fz

SCHEDULE OF PROPOSAL PRICES

All Cost items, including lump sums and unit prices, must be filled in completely. Cost items are described or referenced in Document 01 1000 (Summary of Work) or Document 00 2001 (Instructions for Proposals). Quote in figures only, unless words are specifically requested.

NO.	COST ITEM ^D	Unit	DOLLAR AMOUNT
1	Direct Cost of Construction	Lump Sum	Item No. 1 shall be a complete lump sum cost for all items required per this request.
2	Bonds	Based on Proposed Cost	GC to base cost of item provide lump sum cost provided above
3	Insurance	Based on Proposed Cost	GC to base cost of item provide lump sum cost provided above
4	Taxes	Based on Proposed Cost	GC to base cost of item provide lump sum cost provided above
Tota	I Proposal Price (Total Cost of Items	\$	

Total Project Proposal Price:

(Words)

Notes:

Hourly rates for all services necessary to complete Cost Items 1 shall be submitted with the Proposal in Appendix A to this Document 00 4001. The reasonableness of these hourly rates will be considered in assessing the Price. These rates will be the basis for compensation of additional/extended hours requested by the Owner for these specific services during the course of this Contract.

- 5. The undersigned Proposer acknowledges that the Direct Cost of Construction provided herein is for all the complete scope of work as requested by this RFP and other referenced contract documents in accordance with this request.
- 6. The undersigned acknowledges that the Lowest Responsive Proposer will be determined as provided in Document 00 2001 (Instruction for Proposals).
- 7. The undersigned Proposer understands that Owner reserves the right to reject this Proposal, or all Proposals, in its sole discretion without compensation to Proposer.
- 8. If written notice of the acceptance of this Proposal, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Proposer within the time described in Paragraph 2 of this Document 00 4001 or at any other time thereafter before it is withdrawn, the undersigned Proposer will execute and deliver the documents required by Document 00 2001 (Instructions for Proposals) within the time specified therein.
- 9. Notice of Award or request for additional information may be addressed to the undersigned Proposer at the address set forth below.

- 10. The undersigned Proposer agrees to commence Work under the Contract Documents on the date(s) established in Document 00 7200 (General Conditions) and to complete all Work within the time(s) specified in Document 00 5201 (Agreement).
- 11. The undersigned Proposer agrees that, in accordance with Document 00 7200 (General Conditions), liquidated damages for failure to complete Work in the Contract (or portions thereof) within the time(s) specified in Document 00 5201 (Agreement) shall be as set forth in Document 00 5201.
- 12. The names of all persons interested in the foregoing Proposal as principals are:
- **IMPORTANT NOTICE:** If Proposer or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners composing the firm; if Proposer or other interested person is an individual, give first and last names in full.

NAME OF PROPOSER:

licensed in accordance with an act for the registration of Contractors, and with California license number: ______ Expiration: ______.

(Place of Incorporation, if Applicable)

(Principal)

(Principal)

(Principal)

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

(Signature of Proposer)

NOTE: If Proposer is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Proposer is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business Address:

Contractor's Representative(s):

(Name/Title)

(Name/Title)

The Lathrop House Relocation Project Project Manual May 2018

Proposal Price Form Revision # 0

	(N-	ame/Title)	
Officers Authorized to Sign Contracts	(N	ame/Title)	
	(N	ame/Title)	
	(N	ame/Title)	
Telephone Number(s):	(Area Code)	(Number)	
	(Area Code)	(Number)	
Fax Number(s):	(Area Code)	(Number)	
	(Area Code)	(Number)	
Date of Proposal:			

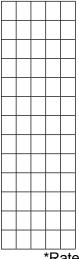
APPENDIX A

SCHEDULE OF RATES FOR PERSONNEL COSTS

You can download a copy of this form in Excel from this link - https://bit.ly/2IGF6Fz

SCHEDULE OF RATES FOR PERSONNEL COSTS - Lathrop House Relocation Project

Position	Staff Name	Cost per Hour*	GC Hour Allocation	Cost Sub- Total
Principal in Charge				\$0
Operations Manager				\$0
Project Manager				\$0
Superintendent				\$0
Foremen				\$0
Safety Specialist				\$0
Project/Field Engineer				\$0
Administrative Assistant				\$0
Carpenter				\$0
Laborer				\$0
		1	Total Cost =	\$0



*Rates include GC's direct costs with burden and without overhead or profit included.

END OF APPENDIX A

PROPOSER CERTIFICATIONS

THE LATHROP HOUSE RELOCATION PROECT, REDWOOD CITY, SAN MATEO COUNTY, CALIFORNIA

TO BE EXECUTED BY ALL PROPOSERS AND SUBMITTED WITH PROPOSAL

The undersigned Proposer certifies to SAN MATEO COUNTY as set forth in sections 1 through 6 below.

1. STATEMENT OF CONVICTIONS

By my signature hereunder, I hereby swear, under penalty of perjury, that no more than one final, unappealable finding of contempt of court by a Federal Court has been issued against Proposer within the past two years because of failure to comply with an order of a Federal Court or to comply with an order of the National Labor Relations Board.

2. CERTIFICATION OF WORKER'S COMPENSATION INSURANCE

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract.

3. CERTIFICATION OF PREVAILING WAGE RATES AND RECORDS

By my signature hereunder, as the Contractor, I certify that I am aware of the provisions of Section 1773 of the California Labor Code, which requires the payment of prevailing wage on public projects. Also, that the Contractor and any subcontractors under the Contractor shall comply with California Labor Code section 1776, regarding wage records, and with California Labor Code section 1777.5, regarding the employment and training of apprentices. It is the Contractor's responsibility to ensure compliance by any and all subcontractors performing work under this Contract. I further certify that I am aware of and agree to comply with the terms and conditions of Owner's Project Labor Agreement and California Public Contracts Code Section 20146.

4. CERTIFICATION OF COMPLIANCE WITH PUBLIC WORKS CHAPTER OF LABOR CODE

By my signature hereunder, as the Contractor, I certify that I am aware of Sections 1777.1 and 1777.7 of the California Labor Code and Contractor and Subcontractors and am eligible to bid, propose and work on public works projects.

5. CERTIFICATION OF ADEQUACY OF CONTRACT AMOUNT

By my signature hereunder, as the Contractor, pursuant to Labor Code section 2810(a), I certify that, if awarded the Contract based on the undersigned's Proposal, the Contract will include funds sufficient to allow the Contractor to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided.

6. CERTIFICATIONS REGARDING CONSTRUCTION TRADES

By my signature hereunder, as the Contractor, I certify that I have considered which construction trades will be performing each aspect of the Work of the Project, and the different wages payable to the various trades, in determining the amount to propose for the Contract.

7. CERTIFICATION OF ACCEPTABILITY OF CONTRACT DOCUMENTS

By my signature hereunder, as the Contractor, I certify that Proposer acknowledges that Owner has already transmitted the Contract Documents in draft form to state officials and has obtained prior state approval of the acceptability of the Contract Documents. Accordingly, Proposer has carefully reviewed the Contract Documents and certifies as follows:

[Please check and/or complete one of the following]

______If the undersigned is selected to be the Contractor, following issuance of Notice of Award to the undersigned, the undersigned will sign the Agreement form and provide the other required forms that have been included within the Contract Documents in the same form as drafted as of the date hereof, including all Addenda identified in the undersigned's Proposal and with applicable information from the undersigned's Proposal inserted, without seeking revisions to the Agreement form or any other Contract Document.

______If the undersigned is selected to be the Contractor, following issuance of Notice of Award to the undersigned, the undersigned will sign the Agreement form and provide the other required forms that have been included within the Contract Documents in the same form as drafted as of the date hereof, including all Addenda identified in the undersigned's Proposal and with applicable information from the undersigned's Proposal inserted, with only the revisions to the Agreement form or other Contract Documents shown in underline and strikeout, format, attached to these Certifications as Appendix ___, consisting of _____ pages. Proposer must attach an Appendix if this item is checked.

8. CERTIFICATION REGARINDG SELECTION PROCESS

[Please check and/or complete one of the following]

_____The undersigned confirms it has no objections or protests to any CONTRACTOR selection procedure, process or requirement, or any other any aspect of the CONTRACTOR selection process, and does not object to any aspect of the CONTRACTOR selection process.

_____Attached as Appendix ___, consisting of _____ pages, is a detailed description of all objections and protests the undersigned has regarding any aspect of the CONTRACTOR selection process. Proposer must attach an Appendix if this item is checked.

9. CERTIFICATION REGARDING MATERIAL CHANGES

[Please check and/or complete one of the following]

_____The undersigned certifies that all information it submitted to Owner in connection with the Pre-Qualification Process, including without limitation any modifications, amendments or supplements thereto ("Pre-Qualification Information") remains true and correct in all material respects as of the date of submitting its Proposal.

Except as provided on the Supplement to Response to Request for Statement of Qualifications, Document 00 4516.1 submitted as provided in Document 00 2001 (Instructions to Proposers), the undersigned certifies that all information it submitted to Owner in connection with the Pre-Qualification Process, including without limitation any modifications, amendments or supplements thereto ("PreQualification Information") remains true and correct in all material respects as of the date of submitting its Proposal. Proposer must include a Material Changes List with its Proposal if this item is checked.

Proposer understands that Owner will be relying on these certifications if it awards the Contract to the undersigned.

PROPOSER:		
		(Name of Proposer)
Date:, 20	Ву:	
		(Signature)
	Name:	
		(Print Name)
	Its:	
		(Title)

NOTICE OF INTENT TO AWARD

DATE POSTED:

CONTRACT FOR: THE LATHROP HOUSE RELOCATION PROJECT

Owner, acting through the San Mateo County Project Development Unit, intends to recommend to its

_.

Board of Supervisors the Award of the above-referenced Contract to

(Name of CMR)

SAN MATEO COUNTY

By: _____

(Print name)

Title: _____

Date: _____

NOTICE OF AWARD

Dated:, 20	
To:(Name of Contractor)	
Address:	
CONTRACT FOR: THE LATHROP HOUSE RELOCATION PROJECT	
The Phase 1 Contract Sum of your Contract is	Dollars.

- 1. Five (5) copies of the proposed Contract Documents listed below accompany this Notice of Award.
- 2. You must comply with the following conditions precedent by 5:00 pm of the 10th Day following the date of this Notice of Award, that is, by [Day of the Week, Month Day, 20__].
 - a. Deliver to Owner four (4) fully executed counterparts of Document 00 5201 (Agreement). Each copy of Document 00 5201 (Agreement) must bear your original signature on the signature page and your initials on each page.
 - b. Deliver to Owner four (4) original copies of Document 00 6301 (Guaranty), each executed by you and with your initials on each page.
 - c. Deliver to Owner one (1) original set of the insurance certificates with endorsements required under Document 00 7311 (Insurance and Indemnification).
 - d. [Insert other, if applicable]
 - e. [Insert other, if applicable]
- **3.** Failure to comply with these conditions within the time specified will entitle Owner to consider your Proposal abandoned, to annul this Notice of Award, and to declare your Proposal security forfeited.
- **4.** As further described in Document 00 2001 (Instructions for Proposals), award of your Contract is also subject to all required State of California approvals.
- 5. Within Twenty-one (21) Days after you comply with the conditions in Paragraph 2 of this Document 00 5105, Owner will return to you one fully signed counterpart of Document 00 5201 (Agreement) with one (1) copy of the Project Manual.
- 6. Before you may commence the work under this Contract, you must attend a pre-construction conference. The pre-construction conference may be arranged through Owner's Project Manager. Questions regarding bonds, insurance and all other inquiries should also be directed to Owner's Project Manager.

7. Upon commencement of the Work, you and each of your Subcontractors shall certify and provide Owner copies of payroll records on forms provided by the Division of Labor Standards Enforcement, in accordance with California Labor Code § 1776.

OWNER:

COUNTY OF SAN MATEO

Ву: _____

(Title)

(Print Name)

AUTHORIZED BY RESOLUTION:

NO: _____

ADOPTED: _____, [201__]

[Copy of Resolution Attached]

AGREEMENT

THIS AGREEMENT, dated this _____day of _____, 201_, is by and between ______ [Name of Contractor], whose place of business is located at _______(Contractor), and the County of San Mateo (Owner), a county established under the laws of the State of California.

WHEREAS, Owner, by its Resolution No._____ adopted on the ____ day of _____, 201_ (a copy of which is attached and part of this Agreement), awarded to Contractor the following contract:

THE LATHROP HOUSE RELOCATION PROJECT

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, Contractor and Owner agree as follows:

ARTICLE I - WORK OF THE CONTRACT AND CONTRACT SUM

1.01. Work of the Contract

A. Contractor shall complete all Work specified in the Contract Documents, including without limitation, the Specifications, Drawings, Document 01 1000 (Summary of Work) and all other terms and conditions of the Contract Documents (**Work**).

1.02. Contract Sum

- A. Owner shall pay Contractor the amounts indicated in paragraphs 1.03 and 1.04 below (together, **Contract Sum**) for completion of Work in accordance with Contract Documents and (as applicable) as set forth in Contractor's Proposal (Document 00 4001 [Proposal Price Form]), attached hereto.
- B. The Contract Sum includes all allowances (if any).

1.03. Contract Sum

- A. Owner shall pay Contractor \$ ______, for completion of all services required for the Project. The Contract Sum amount reflects full compensation for all work related with this contract.
- B. The Contract Sum will be payable progressively based upon progressive work, as set forth in the Contract Documents, commencing only following issuance of Document 00 5501 (Notice to Proceed).

Bonds, Insurance and Taxes identified in Contractor's Proposal Form, in full compensation for bonds, insurance and taxes as required per Document 00 6113.12, Document 00 6113.18 and Document 00 7311.

1.04. No Duplication. There shall be no duplication of costs or expenses among Cost Items. Duplication is subject to correction whenever discovered. Contractor shall compare carefully its scope of work with the scope of work of trade subcontractors and monitor the work to assure that duplication does not occur, for example, and not by way of limitation, in costs of cleanup, document management, modeling, bonds, mock-ups, and supervision.

ARTICLE II - CONTRACT TIME; COMMENCEMENT AND COMPLETION OF WORK

2.01. Contract Duration

- A. Contractor shall commence the services under this contract on the date indicated in Document 00 5501 (Notice to Proceed) Tentative Commencement Date for Notice to Proceed is 7/16/2018 (date is subject to change).
- B. Contractor shall achieve physical relocation of the Lathrop House **no later than 9/10/2018**.
- C. Contractor shall achieve Final Completion of the all work **one hundred two (102) calendar days** from the Commencement Date as provided within Document 00 5501 (Notice to Proceed).

2.02. General Matters

- A. Conditions to Owner's issuance of Document 00 5501 (Notice to Proceed) include all matters described in Document 00 5105 (Notice of Award), and such other matters as Owner may reasonably request.
- B. Conditions to Owner's issuance of Document 00 5501 (Notice to Proceed), to be issued for the Work, include the following, which Owner may waive or modify in its sole discretion:
 - 1. Contractor has awarded all trade subcontracts and authorized self-perform subtrade work contracts required to execute the Work of the Contract Documents.
 - 2. Contractor has provided evidence of all insurance, bonds and bond amounts required by Contract Documents to complete the entire scope of work.
- C. Owner reserves the right to modify or alter the Commencement Date in its sole discretion.

ARTICLE III - PROJECT REPRESENTATIVES

3.01. Owner's Project Manager

- A. Owner, acting through the San Mateo County Project Development Unit, has designated Sam Lin and/or Sam Garcia as its PDU Manager/Project Manager to act as Owner's Authorized Representative in all matters relating to the Contract Documents.
- B. To the extent Board of Supervisors approval is not required and authorized by law, Project Manager shall have authority over various matters pertaining to the Contract Documents and shall have sole authority to modify the Contract Documents on behalf of Owner, to accept work, and to make decisions or actions binding on Owner, and shall have sole signature authority on behalf of Owner, subject however to the limits in the Public Contract Code sections 20137 and 20142, as stated in Document 00 7200, and limits supplied by law and County policies.
- C. Owner may assign all or part of the Project Manager's rights, responsibilities and duties to a Construction Manager, or other Owner Representative, or change the Project Manager, Construction Manager or other Owner Representative at any time.

3.02. General Contractor's Project Manager

- A. Contractor has designated ______ as its Project Manager to act as Contractor's Representative in all matters relating to the Contract Documents. Contractor's Project Manager must be approved in writing by the Owner prior to execution of this Agreement.
- B. Contractor may not change the identity of its Project Manager, Superintendent or any other Key Personnel without prior Owner written approval, which approval shall not be unreasonably withheld, provided such replacement has similar or greater experience and qualifications.

3.03. Architects/Engineers

A. Garavaglia Architecture, Inc. will furnish the Drawings and Division 2 Specifications for the for all work associated with the project. Garavaglia Architecture, Inc. shall have the rights assigned to Architect(s)/Engineer(s) in the Contract Documents.

ARTICLE IV - TERMS, CONDITIONS AND SCOPE OF LIMITATIONS ON DELAY DAMAGES

4.01. Identification and Limitation on Delay Damages.

- A. Owner and Contractor recognize that time is of the essence of this Contract and that both Owner and Contractor (including Subcontractors) will suffer financial loss in the form of contract administration expenses (including without limitations extended General Conditions, General Requirements, lost profit, lost opportunities, consequences to bonding costs for Contractor; and disruption, extended project management and consultant expenses, interest expense, and loss of revenues, damages to third parties and costs of substitute facilities for Owner) (collectively, **delay damages**), if all or any part of the Work is not completed within the times specified above, plus any extensions thereof allowed in accordance with the Contract Documents.
- B. Consistent with Public Contract Code 7203, delay damages are liquidated as follows:
 - 1. Liquidated Damages Owner's liquidated damages of the delay period attributable to Contractor, shall be the amount of \$1,000 per day.
- C. Measures of liquidated damages shall apply cumulatively.
- **4.02. Delays Covered.** This mutual waiver and limit to liquidated damages includes delay damages resulting from delays which in turn result from ordinary, alleged breaches of contract; or errors, omissions, or alleged defects in the design; and force majeure events. Such delays include:
 - 1. Contractor failure to achieve Final Completion of any portion of the Work within the times required in the Contract Documents, plus any permitted extensions;
 - 2. Owner's failure to respond to any Contractor inquiry, submittal or other request in a timely manner;
 - 3. Delays caused by any expected construction interruptions, inspections, rejection of work and rework;
 - 4. Delays caused by any differing site conditions (including hazardous waste or undisclosed Underground Facility), such as those contemplated in Document 00 7200 (General Conditions);
 - 5. Errors or omissions amounting to ordinary negligence, including without limitation Contractor negligence in performing its services.
 - 6. Delays resulting from forces and/or causes beyond the reasonable control of Owner, Contractor or any Subcontractor, including without limitation force majeure events, Acts of God, disruptions in supply and other unexpected difficulties in the progress of the Work.

- **4.03. Subcontractor Consent.** Subcontractors must expressly agree to be bound to this Article IV, to the extent of their scope of Work. Under no circumstances may any Subcontractor make a claim against Owner for delay damages suffered by a Subcontractor. To the extent that this Document 00 5201 (Agreement) otherwise expressly entitles Subcontractors to receive delay damages, all Subcontractor claims for delay damages (i) must be prosecuted through Contractor as provided in Document 00 7200 (General Conditions) and (ii) are subject to all limitations and waivers otherwise contained in this Document 00 5201 and the other Contract Documents.
- **4.04. Exclusions.** The foregoing mutual waiver of delay damages excludes the following:
 - A. Any damages arising from or relating to personal injury, death, defective work, property damage, or to the extent covered by insurance maintained by Owner, Contractor or any Subcontractor.
 - B. Any damages resulting from Contractor's or any Subcontractor's failure to maintain the minimum staffing levels required to prosecute the Work with reasonable diligence, defective work or failure to remedy defective work.
 - C. Any damages resulting from any party's gross negligence or intentional misconduct.
 - D. Any delay damages otherwise payable under paragraph 4.01 above; provided that under no circumstance shall Owner, Contractor or any Subcontractor be paid twice for the same delay damages.
 - E. Indemnity or defense obligations under Contract Documents.
 - F. Under no circumstances may this mutual waiver be construed to limit liability for any damages covered by insurance maintained by Owner, Contractor or any Subcontractor, to the extent of such coverage available and recovered after exercise of reasonable efforts.

ARTICLE V - NOT USED

ARTICLE VI - CONTRACT DOCUMENTS

6.01. The Contract Documents which comprise the entire agreement between Owner and Contractor concerning the Work consist of the following documents, including all changes, Addenda, and Modifications thereto as listed on Document 00 0111 Table of Contents:

Document 00 4001 Document 00 1001	Proposal Price Form Notice Inviting Proposals
Document 00 2001	Instructions for Proposals
Document 00 3020	Geotechnical Data and Existing Conditions
Document 00 4820	Proposer Certifications
Document 00 5201	Agreement
Document 00 5501	Notice to Proceed
Document 00 6113.12	Construction Performance Bond
Document 00 6113.18	Construction Labor and Material Payment Bond
Document 00 6301	Guaranty
Document 00 6530	Agreement and Release of Any and All Claims
Document 00 6801	Escrow Agreement for Security Deposit in Lieu of Retention
Document 00 7200	General Conditions
Document 00 7301	Supplementary General Conditions
Document 00 7311	Insurance and Indemnification
Document 00 7315	Naturally Occurring Asbestos [If Applicable]
Document 00 7380	Apprenticeship Program
Document 00 9111	Addenda

Specifications	Division 01 Sections as provided within the Project Manual and as identified in Document 00 0111 Table of Contents.
Specifications	Division 02 through 33 as provided within the Project Manual and as identified in Document 00 0111 Table of Contents.
Drawings	Drawings, Tables and Schedules as provided via the Project Manual and as identified in Document 00 0111 Table of Contents.

6.02. There are no Contract Documents other than those listed above in this Article VI. Document 00 3020 Geotechnical Data and Existing Conditions and the information supplied through those documents, are not Contract Documents and describe conditions of construction only. The Contract Documents may only be amended, modified or supplemented as provided in Document 00 7200 General Conditions.

ARTICLE VII - TRADE SUBCONTRACTOR BIDDING AND BONDS

- **7.01.** Subcontracts bidding shall comply with all public contracting requirements applicable to the County of San Mateo, including without limitation, the following requirements:
 - A. Contractor shall provide a fixed date and time on which the subcontracted work will be awarded.
 - B. In any contract between Contractor and any trade subcontractor, or any contract between a trade subcontractor and a subcontractor thereunder, the percentage of the retention proceeds withheld may not exceed the percentage specified in the contract between Owner and Contractor. If the Contractor provides written notice to any trade subcontractor or subcontractor thereunder that is not a member of the Contractor entity, prior to or at the time the bid is requested, that a bond may be required and the subcontractor subsequently is unable or refuses to furnish a bond to the Contractor, then the Contractor may withhold retention proceeds in excess of the percentage specified in the contract between Owner and Contractor from any payment made by the Contractor to the trade subcontractor or subcontractor thereunder.
 - C. Contractor shall award subcontracts to the low, responsive and responsible trade bidder for each trade package.
- **7.02.** Subcontracts bid shall encompass a complete scope of work for their respective trade. Contractor shall not include duplicate scope in any Cost Item or trade subcontract and if such is discovered subsequently then the Contractor shall so notify Owner for calculation and implementation of the appropriate deductive change order for the value of any such duplication.
- **7.03.** As a condition to the Notice to Proceed and as a material term of this Contract, Contractor shall provide a performance bond and a payment bond in the forms provided in the Contract Documents as Document 00 6113.12 (Construction Performance Bond) and Document 00 6113.18 (Construction Labor and Material Payment Bond). Such Bonds shall be in the penal sum of the agreed price.
- **7.04.** Except as otherwise provided in this Article VII or upon written consent of Owner, the Contractor shall not assign any portion of the Contract Documents, and may subcontract portions of the Contract Documents only in compliance with the Subcontractor Listing Law, California Public Contract Code § 4100 *et seq*.

ARTICLE VIII - MISCELLANEOUS

8.01. Terms and abbreviations used in this Agreement are defined in Document 00 7200 (General Conditions) and will have the meaning indicated therein.

- **8.02.** It is understood and agreed that in no instance are the persons signing this Agreement for or on behalf of Owner or acting as an employee, agent, or representative of Owner, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise, and it is further understood and agreed that liability of Owner is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.
- **8.03.** In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time Owner tenders the final payment to Contractor, without further acknowledgment by the parties.
- **8.04.** Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are deemed included in the Contract Documents and on file at Owner's Office, and shall be made available to any interested party on request. Pursuant to California Labor Code §§ 1860 and 1861, in accordance with the provisions of Section 3700 of the Labor Code, every contractor will be required to secure the payment of compensation to his employees. Contractor represents that it is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and Contractor shall comply with such provisions before commencing the performance of the Work of the Contract Documents.
- **8.05.** In order to induce Owner to enter into this Agreement, Contractor represents that it is duly organized, existing and in good standing under applicable state law; is licensed to perform all aspects of the Work; will employ only persons and subcontractors and designers with all required licenses and certifications; that Contractor is duly qualified to conduct business in the State of California; that Contractor has duly authorized the execution, delivery and performance of this Agreement, the other Contract Documents, and Work to be performed herein; and that the Contract Documents do not violate or create a default under any instrument, agreement, order, or decree binding on Contractor.
- **8.06.** Contractor shall not assign any portion of the Contract Documents.
- **8.07.** This Agreement and the Contract Documents shall be deemed to have been entered into in the City of Redwood City, County of San Mateo, State of California, and governed in all respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in the Superior Court for the County of San Mateo.

IN WITNESS WHEREOF the parties have executed this Agreement in quadruplicate the day and year first above written.

GENERAL CONTRACTOR:

[Contractor's Name]

By: _____

(Signature)

lts:

Title (If Corporation: Chairman, President or Vice President)

Ву: ___

(Signature)

Its:

Title (If Corporation: Secretary, Assistant Secretary, Chief Financial Officer or Assistant Treasurer

The Lathrop House Relocation Project Project Manual May 2018 OWNER:

COUNTY OF SAN MATEO

President, Board of Supervisors

Attest:

Clerk of the Board of Supervisors

RESOLUTION NO.

Appendix A

TRADE SUBCONTRACTORS LIST (Contractor to list all Subcontractors for the Project)

Prepared by Contractor on _____, 20____.

END OF APPENDIX A

NOTICE TO PROCEED

Dated:	, 20	
То:	(Name of Contractor)	
Address:		

CONTRACT FOR: THE LATHROP HOUSE RELOCATION PROJECT

You are notified that the Contract Time for construction services and work under the above Contract will commence to run on ______ [20_]. On that date, you are to start performing your construction obligations under the Contract Documents. In accordance with Article II of Document 00 5201 (Agreement), the dates of Substantial Completion and Final Completion for the entire Work are ______, [20_] and ______, [20_], respectively.

Before you may start any Work at the Site, you must:

- 1. Submit one (1) original of Document 00 6113.12 (Construction Performance Bond), executed by you and your surety.
- 2. Submit one (1) original of Document 00 6113.18 (Construction Labor and Material Payment Bond), executed by you and your surety.
- 3. Submit certified Safety Program and related information
- 4. [Other]
- 5. [Other]

COUNTY OF SAN MATEO

Its:

By : _____

Date:

DOCUMENT 00 6113.12

CONSTRUCTION PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS:

1.01 THAT WHEREAS, the COUNTY OF SAN MATEO (**Owner**), a political subdivision of the State of California, has awarded to (**Name of General Contractor**)

as Principal Contract Number _____dated the ____day of _____, 20____ (the **Contract**) for **THE LATHROP HOUSE RELOCATION PROJECT** currently located at 627 Hamilton Street (to be relocated at 701 Hamilton Street) located in Redwood City, California.

- **1.02** AND WHEREAS, Principal is required to furnish a bond in connection with the Contract, guaranteeing the faithful performance thereof;
- 1.03 NOW, THEREFORE, we, the undersigned Principal and (Name of Surety)

as Surety are held and firmly bound unto Owner in the sum of **[Insert** "Total Proposal Price" identified in General Contractor's Proposal] to be paid to Owner or its successors and assigns; for which payment, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

- **1.04** THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its heirs, executors, administrators, successors, or assigns approved by Owner, shall promptly and faithfully perform the covenants, conditions, and agreements of the Contract during the original term and any extensions thereof as may be granted by Owner, with or without notice to Surety, and during the period of any guarantees or warranties required under the Contract, and shall also promptly and faithfully perform all the covenants, conditions, and agreements of any alteration of the Contract made as therein provided, notice of which alterations to Surety being hereby waived, on Principal's part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify, defend, protect, and hold harmless Owner as stipulated in the Contract, then this obligation shall become and be null and void; otherwise it shall be and remain in full force and effect.
- **1.05** No extension of time, change, alteration, modification, or addition to the Contract, or of the work required thereunder, or work or actions by Owner to mitigate the damages resulting from any breach in performance by Contractor, shall release or exonerate Surety on this bond or in any way affect the obligation of this bond; and Surety does hereby waive notice of any such extension of time, change, alteration, modification, or addition.
- **1.06** Whenever Principal shall be and declared by Owner in default under the Contract, Surety shall promptly remedy the default, or shall promptly, and in no event later than thirty (30) days from notice:
 - A. Undertake through its agents or independent Contractors (but having qualifications and experience reasonably acceptable to Owner), to complete the Contract in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract, including without limitation, all obligations with respect to warranties, guarantees, indemnities, and the payment of liquidated damages; or
 - B. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and, upon determination by Owner of the lowest responsible bidder, arrange for a contract between such bidder and Owner and make available as work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Sum, and to pay and perform all obligations of Principal under the Contract, including, without limitation, all obligations with respect to warranties, guarantees, and the payment of liquidated damages; but, in

San Mateo County – Project Development Unit The Lathrop House Relocation Project

any event, Surety's total obligations hereunder shall not exceed the amount set forth in the third paragraph hereof. The term "balance of the Contract Sum," as used in this paragraph, shall mean the total amount payable by Owner to the Principal under the Contract and any amendments thereto, less the amount paid by Owner to Principal.

- **1.07** Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing Owner's rights against the others.
- **1.08** Surety may not use Contractor to complete the Contract absent Owner's Consent. Owner shall have the right in its sole discretion to continue the work of the Contract, as necessary following a default and/or termination, as necessary to prevent risks of personal injury, property damage or delay to the Project.
- **1.09** No right of action shall accrue on this bond to or for the use of any person or corporation other than Owner or its successors or assigns.
- **1.10** Surety shall join in any proceedings brought under the Contract upon Owner's demand, and shall be bound by any judgment.
- **1.11** Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands this _____ day of _____, 20____.

CONTRACTOR AS PRINCIPAL		SURETY	
Company:	(Corp. Seal)	Company:	(Corp. Seal)
Signature:		Signature:	
Name and Title:		Name and Title:	
Address:		Address:	

END OF DOCUMENT 00 6113.12

San Mateo County – Project Development Unit The Lathrop House Relocation Project

DOCUMENT 00 6113.18

CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS:

1.01 THAT WHEREAS, the COUNTY OF SAN MATEO (Owner), a political subdivision of the State of California, has awarded to (<u>Name of GENERAL CONTRACTOR</u>) as Principal Contract Number dated the day of

- **1.02** AND WHEREAS, Principal is required to furnish a bond in connection with the Contract to secure the payment of claims of laborers, mechanics, material suppliers, and other persons as provided by law;
- 1.03 NOW, THEREFORE, we, the undersigned Principal and (Name of Surety)_

, as Surety, are held and firmly bound unto Owner in the sum of [Insert 100% of the "Total Bid Price" identified in GENERAL CONTRACTOR'S Bid; subject to further revision as Trade Subcontracts are bid out and assigned and novated to GENERAL CONTRACTOR per Contract Documents (e.g., Documents 00 5201 Agreement and 00 5205 Assignment and Novation Agreement)] for which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

- **1.04** THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its executors, administrators, successors, or assigns approved by Owner, or its subcontractors shall fail to pay any of the persons named in California Civil Code § 3181, or amounts due under the State of California Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the State of California Employment Development Department from the wages of employees of Principal and subcontractors pursuant to Section 13020 of the State of California Unemployment Insurance Code with respect to such work and labor, that Surety will pay for the same in an amount not exceeding the sum specified in this bond, plus reasonable attorneys' fees, otherwise the above obligation shall become and be null and void.
- **1.05** This bond shall inure to the benefit of any of the persons named in California Civil Code § 3181, as to give a right of action to such persons or their assigns in any suit brought upon this bond. The intent of this bond is to comply with the California Mechanic's Lien Law.
- **1.06** Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder.
- **1.07** Surety's obligations hereunder are independent of the obligations of any other surety for the payment of claims of laborers, mechanics, material suppliers, and other persons in connection with Contract; and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing Owner's rights against the other.
- **1.08** Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

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IN WITNESS WHEREOF, we have hereunto set our hands this		day of	, 20	
CONTRACTOR AS PRINCIPAL		SURETY		
Company:	(Corp. Seal)	Company:	(Corp. Seal))
Name		Name		
Title		Title		

END OF DOCUMENT 00 6113.18

DOCUMENT 00 6301

GUARANTY

TO: The COUNTY OF SAN MATEO (**Owner**), for construction of the **LATHROP HOUSE RELOCATION PROJECT** currently located at 627 Hamilton Street (to be relocated to 701 Hamilton Street) located in Redwood City, California.

The undersigned guarantees all construction performed on this Project and also guarantees all material and equipment incorporated therein.

Contractor hereby grants to Owner for a period of one (1) year following the date of Final Acceptance of the Work completed, or such longer period specified in the Contract Documents, its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers in connection with the Work.

Neither final payment nor use nor occupancy of the Work performed by the Contractor shall constitute an acceptance of Work not done in accordance with this Guaranty or relieve Contractor of liability in respect to any express warranties or responsibilities for faulty materials or workmanship. Contractor shall remedy any defects in the Work and pay for any damage resulting therefrom, which shall appear within one (1) year, or longer if specified, from the date of Final Acceptance of the Work completed.

If within one (1) year after the date of Final Acceptance of the Work completed, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be Defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom.

If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement.

Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.

Inspection of the Work shall not relieve Contractor of any of its obligations under the Contract Documents. Even though equipment, materials, or Work required to be provided under the Contract Documents have been inspected, accepted, and estimated for payment, Contractor shall, at its own expense, replace or repair any such equipment, material, or Work found to be Defective or otherwise not to comply with the requirements of the Contract Documents up to the end of the guaranty period.

All abbreviations and definitions of terms used in this Agreement shall have the meanings set forth in the Contract Documents.

The foregoing Guaranty is in addition to any other warranties of Contractor contained in the Contract Documents, and not in lieu of, any and all other liability imposed on Contractor under the Contract Documents and at law with respect to Contractor's duties, obligations, and performance under the Contract Documents. In the event of any conflict or inconsistency between the terms of this Guaranty and any warranty or obligation of the Contractor under the Contract Documents or at law, such inconsistency or conflict shall be resolved in favor of the higher level of obligation of the Contractor.

Date: _____, 20___

General Contractor's name

By: _____ Signature

Print Name

Title

Street Address

City, State, Zip code

END OF DOCUMENT 00 6301

DOCUMENT 00 6530

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS [Public Contract Code § 7100]

THIS AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS (**Agreement and Release**), made and entered into this [<u>date</u>] day of [<u>Month</u>], [20__], by and between the County of San Mateo (**Owner**), and [<u>Name of Contractor</u>] (Contractor), whose place of business is at [<u>Address of Contractor</u>].

RECITALS

- A. Owner and Contractor entered into a Contract for construction of Owner's LATHROP HOUSE RELOCATION PROJECT currently located at 627 Hamilton Street located in Redwood City, California. (Contract).
- B. The Work under the Contract has been completed.

AGREEMENT

NOW THEREFORE, it is mutually agreed between Owner and Contractor as follows:

1. Contractor will not be assessed liquidated damages except as detailed below:

Original Contract Sum	\$
Modified Contract Sum	\$
Payment to Date	\$
Liquidated Damages	\$
Payment Due Contractor	\$

2. Subject to the provisions of this Agreement and Release, Owner will forthwith pay to Contractor the sum of [______ Dollars and

Cents (\$_____)] under the Contract, less any amounts withheld under the Contract or represented by any Notice to Withhold Funds on file with Owner as of the date of such payment.

- 3. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against Owner arising from the Contract, except for the claims described in paragraph 4 of this Document 00 6530. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against Owner, and all if its agents, employees, consultants, inspectors, representatives, assignees and transferees, except for the Claims set forth in Paragraph 4 of this Document 00 6530. Nothing in this Agreement and Release shall limit or modify Contractor's continuing obligations described in Paragraph 6 of this Document 00 6530.
- 4. The following claims submitted under Document 00 7200 (General Conditions), Article XII, are disputed (hereinafter, the **Claims**) and are specifically excluded from the operation of this Agreement and Release.

[Insert information in Chart below, affix attachment if necessary]

CLAIM NO.	DATE SUBMITTED	DESCRIPTION OF CLAIM	AMOUNT OF CLAIM

- 5. Consistent with California Public Contract Code § 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 2 of this Document 00 6530, Contractor hereby releases and forever discharges Owner, and all of its agents, employees, consultants, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.
- 6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.
- 7. Contractor shall immediately defend, indemnify and hold harmless Owner, any of the Owner's Representatives, Project Manager, and all of their agents, employees, consultants, inspectors, assignees and transferees, from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor's suppliers and/or Subcontractors of any tier and/or any suppliers to them for any and all labor, materials, supplies and equipment used, or contemplated to be used in the performance of the Contract, except for the Claims set forth in Paragraph 4 of this Document 00 6530.
- 8. Contractor hereby waives the provisions of California Civil Code section 1542, which provide as follows:

A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER, MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.

- 9. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal or other law, ruling, or regulation, then such provision, or part thereof shall remain in force and effect only to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.
- 10. Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Agreement and Release, and that it has full right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connection with this Agreement and Release.

11. All rights of Owner shall survive completion of the Work or termination of the Contract, and execution of this Agreement and Release.

*** CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING ***

OWNER

Ву:	
	Signature
Name:	
	Print
lto	
Its:	Title
ATTEST:	
	Secretary
	Print
[CONTRACTOR]	
Dv:	
Ву:	Signature
Name:	
	Print
Its:	Title

Signature
Print
Title
RM:
, [201]
Counsel for Owner
Print

END OF DOCUMENT 00 6530

DOCUMENT 00 6801

ESCROW AGREEMENT FOR SECURITY DEPOSIT IN LIEU OF RETENTION

California Public Contract Code § 22300

THIS ESCROW AGREEMENT (**Escrow Agreement**) is made and entered into this _____ day of _____, 201___, by and between <u>The County of San Mateo</u> (**Owner**), whose address is 1402 Maple Street, Redwood City, California, (Name of General Contractor)

(Contractor), whose place of business is located at (Contractor's Address) , and [] Owner, as escrow agent OR [] (Name of Bank) , a state or federally chartered bank in the State of California, whose place of business is located at (Escrow Agent).

For the consideration hereinafter set forth, Owner, Contractor and Escrow Agent agree as follows:

- 1. Pursuant to California Public Contract Code § 22300, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to the Contract entered into between Owner and Contractor for the THE LATHROP HOUSE **RELOCATION PROJECT** currently located at 627 Hamilton Street located in Redwood City, California in the amount of \$ dated 20 (the Contract). Alternatively, on written request of Contractor, Owner shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify Owner within ten Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between Owner and Contractor. Securities shall be held in name of _____, and shall designate Contractor as the beneficial owner.
- 2. Owner shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in paragraph 1 of this Document 00 6801.
- 3. When Owner makes payment(s) of retention earned directly to Escrow Agent, Escrow Agent shall hold said payment(s) for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when Owner pays Escrow Agent directly.
- 4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of Owner. Such expenses and payment terms shall be determined by Owner, Contractor, and Escrow Agent.
- 5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to Owner.
- 6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Owner to Escrow Agent that Owner consents to withdrawal of amount sought to be withdrawn by Contractor.
- 7. Owner shall have the right to draw upon the securities in event of default by Contractor. Upon seven Days written notice to Escrow Agent from Owner of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by Owner.

- 8. Upon receipt of written notification from Owner certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.
- 9. Escrow Agent shall rely on written notifications from Owner and Contractor pursuant to paragraphs 5 through 8, inclusive, of this Document 00 6801 and Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth.
- 10. Names of persons who are authorized to give written notice or to receive written notice on behalf of Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are stated below. Any party to this Escrow Agreement may change the name of the person who is authorized to give or to receive written notice on its behalf by delivering written notification of such change to all other parties to this Escrow Agreement at the addresses set forth below.

ON BEHALF OF OWNER:

ON BEHALF OF CONTRACTOR:

Title
Name
Signature
Address
City/State/Zip Code

ON BEHALF OF ESCROW AGENT:

Title

Name

Signature

Address

City/State/Zip Code

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on the date first set forth above.

OWNER	CONTRACTOR
Title	Title
Name	Name
Signature	Signature
ATTEST	
Signature	
Print Name	
Secretary	
ESCROW AGENT	
Print Name	
Signature	
REVIEWED AS TO FORM:	
Counsel for Owner	
Print Name	
Date	

At the time the Escrow Account is opened, Owner and Contractor shall deliver to Escrow Agent a fully executed counterpart of this Document 00 6801.

END OF DOCUMENT 00 6801

DOCUMENT 00 7200

GENERAL CONDITIONS

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DOCUMENT 00 7200

GENERAL CONDITIONS

ARTICLE I – INTERPRETATION OF CONTRACT

1.01. Defined Terms

A. This Document 00 7200 subdivides at first level into Articles, and then into paragraphs, then into subparagraphs.

1.02. Contract Documents

A. Contract Documents are complementary; what is called for by one is as binding as if called for by all. Contract Documents shall not be construed to create a contractual relationship of any kind between (1) Architects/Engineers or any Owner Representative and Contractor; (2) Owner and/or its representatives and (except as provided in Article XIII below) a Subcontractor, sub-Subcontractor, or supplier of any Project labor, materials, or equipment; or (3) between any persons or entities other than Owner and Contractor.

1.03. Precedence Of Documents

- A. In the case of discrepancy or ambiguity in the Contract Documents, the following order of precedence shall prevail:
 - 1. Modifications in inverse chronological order (i.e., most recent first), and in the same order as specific portions they are modifying;
 - 2. Agreement, and terms and conditions referenced therein, and such other documents within the Document 00 5201.
 - 3. Supplementary Conditions; Document 00 7301
 - 4. This Document 00 7200 (General Conditions);
 - 5. Division 1 Specifications;
 - 6. Technical Specifications;
 - 7. Drawings;
 - 8. Written numbers over figures, unless obviously incorrect;
 - 9. Figured dimensions over scaled dimensions;
 - 10. Detailed/enlarged-scale drawings over small-scale drawings.
- B. Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete Work required by Contract Documents, will be resolved in favor of the actual quantities.

ARTICLE II – REQUIRED INVESTIGATIONS AND SUBCONTRACTORS

2.01. Contractor's Investigations

- A. Prior to submitting its Proposal, Contractor must investigate fully the Work of the Contract. Contractor must visit the Site, examine thoroughly and understand fully the nature and extent of the Contract Documents, Work, Site, locality, actual conditions and as-built conditions, and all other information made available for preparing and submitting a proposal. Contractor's investigation shall include, but is not limited to, a thorough examination of all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto. Contractor shall completely and thoroughly correlate all such information and consider such information fully, prior to and as a condition of submitting its Proposal. Contractor shall make inquiry as required in Document 00 3020 (Geotechnical Data and Existing Conditions).
- B. Prior to submitting its Proposal, Contractor shall take care to note the existence and potential existence of Underground Facilities, in particular, above and below grade structures, drainage

lines, storm drains, sewers, water, gas, steam, condensate return, chilled water supply and return, electrical, chemical, hot water, and other similar items and utilities. Contractor shall carefully consider all supplied information, request additional information Contractor may deem necessary, and visually inspect the Site for above ground indications of Underground Facilities (such as, for example not by way of limitation, the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site.)

- C. Prior to submitting its Proposal, Contractor must correlate its experience, knowledge and the results of its required investigation with the terms and conditions of the Contract Documents, and must give Owner prompt written notice of all conflicts, errors, ambiguities, or discrepancies of any type, that it may discover in or among the Contract Documents, as-built drawings (if any) and/or actual conditions. Contractor shall give this notice during the Proposal period and submission of a Proposal indicates Contractor's agreement that Owner responded to the notice through Addenda issued by Owner which is acceptable to Contractor
- D. Prior to submitting its Proposal, Contractor must consider fully the fact that information supplied regarding existing Underground Facilities at or contiguous to the Site is in many cases based on information furnished to Owner by others (e.g., the builders of such Underground Facilities or others), and that due to their age or their chain of custody since preparation, may not meet current industry standards for accuracy. Contractor must also consider local underground conditions and typical practices for Underground Facilities, either through its own direct knowledge or through its subcontractors, and fully consider this knowledge in assessing the existing information and the reasonableness of its reliance.
- E. Prior to submitting its Proposal, Contractor shall conduct (or request that Owner have conducted) any such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto or which Contractor deems necessary to determine its Proposal for performing and furnishing the Work in accordance with the time, price and other terms and conditions of Contract Documents.
- F. Prior to submitting its Proposal, Contractor may rely on Owner supplied information regarding existing conditions only where such conditions are underground and not subject to reasonable verification. If existing information supplied by Owner indicates a discrepancy or a substantial risk of inaccuracy or omission, then Contractor must request specific additional information. Contractor shall advise Owner in writing during the Proposal period of any questions, suppositions, inferences or deductions Contractor may have, for Owner's review and response by Addenda, and may not assert any such matters later that were not brought forth during the Proposal period.
- G. Prior to submitting its Proposal and during performance of the Contract, Contractor will be charged with knowledge of all information that it should have learned in performing its required pre-Proposal investigations, and shall not be entitled to change orders (time or compensation) due to information or conditions that Contractor should have known as a part of these investigations.

2.02. Supplied Information On Underground Existing Conditions

A. Regarding Underground Facilities shown in the Contract Documents or supplied through Document 00 3020 (Geotechnical Data and Existing Conditions), Owner has compiled this information in good faith, relying on its records and third party records, for the general accuracy of information regarding Underground Facilities, and only for those Underground Facilities that are owned by Owner. This express assumption of responsibility applies only if Proposer has conducted the independent investigation required of it and discrepancies were not apparent. Owner does not assume responsibility for the accuracy, completeness or thoroughness of this information, and Proposer is solely responsible for any interpretation or conclusion drawn from this information.

B. Regarding subsurface conditions other than Underground Facilities, shown on the Contract Documents or supplied in Document 00 3020 (Geotechnical Data and Existing Conditions), Contractor may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated in the Contract Documents. Owner is not responsible for the completeness of any subsurface condition information for preparing and submitting a proposal or for construction, Contractor's conclusions or opinions drawn from any subsurface condition information, or subsurface conditions that are not specifically shown. (For example, Owner is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown.)

2.03. Supplied Information On Above Ground Existing Conditions

- A. Regarding aboveground and as-built conditions shown on the Contract Documents or supplied through Document 00 3020 (Geotechnical Data and Existing Conditions), such information has been compiled in good faith, however, Contractor must independently verify such information. Owner does not expressly or impliedly warrant or represent that information as to aboveground conditions or as-built conditions indicated in the Contract Documents or Document 00 3020, is correctly shown or indicated, or otherwise complete for construction purposes.
- B. As a condition to submitting a proposal, Contractor shall verify by independent investigation all such aboveground and as-built conditions, and bring any discrepancies to Owner's attention through written question. In submitting its Proposal, Contractor shall rely on the results of its own independent investigation and shall not rely on Owner-supplied information regarding aboveground conditions and as-built conditions, and Contractor shall accept full responsibility for its verification work sufficient to complete the Work as intended.

2.04. Subcontractors (During Phase 2)

- A. Consistent with Public Contract Code sections 4101 et seq., Contractor shall not substitute any other person or firm in place of any Subcontractor listed in the Proposal. Subcontractors shall not assign or transfer their subcontracts or permit them to be performed by any other contractor without Owner's written approval. At Owner's request, Contractor shall provide Owner with a complete copy of all executed subcontracts or final commercial agreements with Subcontractors and/or suppliers.
- B. Subcontract agreements shall preserve and protect the rights of Owner under the Contract Documents so that subcontracting will not prejudice such rights. To the extent of the Work to be performed by a Subcontractor, Contractor shall require the Subcontractor's written agreement (1) to be bound to the terms of Contract Documents and (2) to assume vis-à-vis Contractor all the obligations and responsibilities that Contractor assumes toward Owner under the Contract Documents. (These agreements include for example, and not by way of limitation, all warranties, claims procedures and rules governing submittals of all types to which Contractor is subject under the Contract Documents.)
- C. Contractor shall provide for the assignment to Owner of all rights any Subcontractor may have against any manufacturer, supplier, or distributor for breach of warranties and guaranties relating to the Work performed by the Subcontractor under the Contract Documents.
- D. Owner shall be deemed to be an intended third-party beneficiary of all Subcontracts (of any tier) for the provision of labor, services, supplies or material to the Project, and each such agreement shall so provide.

ARTICLE III – CONTRACT AWARD AND COMMENCEMENT OF THE WORK

3.01. Time Allowances For Performance Of Contract Documents

- A. When Contractor and Owner have signed the Contract Documents, Owner will serve a Notice to Proceed upon Contractor to that effect, either by email or postal mail to Contractor at the legal contact address provided.
- B. The start date for Contract Time shall be on the date indicated in the applicable Notice to Proceed. If no date is indicated, the start date for Contract Time shall be the fifth (5th) Day from the date that Contractor receives Owner's written Notice to Proceed.
- C. The total number of Days for completion of the Work under the Contract Documents shall be as provided in the Agreement.

3.02. Commencement Of Work

- A. The Contract Time will commence to run on the later of the 30th Day after the issuance of the Notice of Award or, if a Notice to Proceed is given, on the date indicated in the Notice to Proceed. Owner may give a Notice to Proceed at any time after the Notice of Award. Contractor shall not do any Work at the Site prior to the date on which the Contract Time commences to run.
- B. Owner may give authorization to Contractor to mobilize on site in preparation for Construction, prior to the issuance of a Notice to Proceed. Mobilization shall be limited to trailer set-up, hook-up of utilities and temporary fencing around the trailer. Contract Time will commence as stated in 3.02.A above.

ARTICLE IV – INSURANCE AND INDEMNIFICATION

4.01. Insurance

A. See Document 00 7311 Insurance and Indemnification, incorporated herein by this reference.

ARTICLE V – DRAWINGS AND SPECIFICATIONS

5.01. Intent

- A. Drawings and Specifications are intended to describe a functionally complete and operable Project (and all parts thereof) to be constructed in accordance with the requirements of Contract Documents. Contractor shall perform any work, provide services and furnish any materials or equipment that may reasonably be inferred from the requirements of Contract Documents or from prevailing custom or trade usage as being required to produce this intended result. Contractor shall interpret words or phrases used to describe work (including services), materials or equipment, that have well-known technical or construction industry or trade meaning in accordance with that meaning. Drawings' intent specifically includes the intent to depict construction that complies with all applicable laws, codes and standards.
- B. As part of the "Work," Contractor shall provide all labor, materials, equipment, machinery, tools, facilities, services, employee training and testing, hoisting facilities, shop drawings, storage, testing, security, transportation, disposal, the securing of all necessary or required field dimensions, the cutting or patching of existing materials, notices, permits, documents, reports, agreements and any other items required or necessary to timely and fully complete Work described and the results intended by Contract Documents and, in particular, Drawings and Specifications. Divisions and Specification Sections and the identification on any Drawings shall not control Contractor in dividing Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.
- C. Contractor shall perform reasonably implied parts of Work as "incidental work" although absent from Drawings and Specifications. Incidental work includes any work not shown on Drawings or described in Specifications that is necessary or normally or customarily required as a part of the Work shown on Drawings or described in Specifications. Incidental work includes any Work necessary or required to make each installation satisfactory, legally operable, functional, and

consistent with the intent of Drawings and Specifications or the requirements of Contract Documents including required tasks to be performed under Division 00 and 01 of Specifications. Contractor shall perform incidental work without extra cost to Owner. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and the expense of incidental work shall be included in price in the Proposal and in the Contract Sum.

5.02. Drawing Details

A. A typical or representative detail on Drawings shall constitute the standard for workmanship and material throughout corresponding parts of Work. Where necessary, and where reasonably inferable from Drawings, Contractor shall adapt such representative detail for application to such corresponding parts of Work. The details of such adaptation shall be subject to prior approval by Owner. Repetitive features shown in outline on Drawings shall be in exact accordance with corresponding features completely shown.

5.03. Interpretation Of Drawings And Specifications

A. Should any discrepancy appear or any misunderstanding arise as to the interpretation of anything contained in Drawings and Specifications, or should Contractor have any questions or requests relating to Drawings or Specifications, Contractor shall refer the matter to Owner, in writing. Owner will issue with reasonable promptness written responses, clarifications or interpretations as Owner may determine necessary, which shall be consistent with the intent of and be reasonably inferable from Contract Documents. Such written clarifications or interpretations shall be binding upon Contractor. If Contractor believes that a written response, clarification or interpretation justifies an adjustment in the Contract Sum or Contract Time, Contractor shall give Owner prompt written notice as provided in Document 01 2600 Contract Modification Procedures. If the parties are unable to agree to the amount or extent of the adjustment, if any, then Contractor shall perform the Work in conformance with Owner's response, clarification, or interpretation and may make a written claim for the adjustment as provided in Article XII of this Document 00 7200.

5.04. Checking Of Drawings

A. Before undertaking each part of Work, Contractor shall carefully study and compare Contract Documents to check and verify pertinent figures shown in the Contract Documents and all applicable field measurements. Contractor shall be responsible for any errors that might have been avoided by such checking/comparison. Figures and dimensions shown on Drawings shall be followed; Contractor shall not scale measurements. Contractor shall promptly report to Owner, in writing, any conflict, error, ambiguity or discrepancy that Contractor may discover. Contractor shall obtain a written interpretation or clarification from Owner before proceeding with any Work affected thereby. Contractor shall provide Owner with a follow-up correspondence every five (5) days until it receives a satisfactory interpretation or clarification.

5.05. Standards To Apply Where Specifications Are Not Furnished

A. The following general specifications shall apply wherever in the Specifications, or in any directions given by Owner in accordance with or supplementing Specifications, it is provided that Contractor shall furnish materials or manufactured articles or shall do work for which no detailed specifications are shown. Materials or manufactured articles shall be of the best grade, in quality and workmanship, obtainable in the market from firms of established good reputation. If not ordinarily carried in stock, the materials or manufactured articles shall conform to industry standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be put. Material specified by reference to the number, symbol or title or a specific standard, such as a commercial standard, a Federal specification, a trade association standard, or other similar standard, must comply with the requirements thereof. Work shall conform to the usual standards or codes, for first-class work of the kind required. Contractor shall specify and submit in writing to Owner the materials to be used or Work to be

performed under this paragraph ten (10) Business Days prior to furnishing such materials or performing such Work.

5.06. Deviation From Specifications and Drawings

- A. Contractor shall perform Work in accordance with Drawings and Specifications, and Contractor shall not be relieved of this responsibility by the activities of the Architects/Engineers in the performance of their duties thereunder. Deviations from Drawings and from the dimensions therein given, or from the Specifications, whether or not error is believed to exist, shall be made only when approved in writing by Owner. Contractor may deviate from Drawings or the dimensions given in the Drawings, and may deviate from the Specifications, only upon Owner's advance written approval of the proposed deviation, either by Change Order or by Instruction Bulletin.
- B. Instruction Bulletins changing the approved drawings and technical specifications may also be used to prevent undue delay.
- C. Contractor acknowledges that changes are a normal feature of construction projects. Contractor shall rely on its experience and proactively cooperate, coordinate and schedule RFI's, submittals, field questions, inspections, and document assembly, to facilitate the prompt and efficient use of the Change Order and Instruction Bulletin procedure as necessary to prevent delay in actual field construction.
- D. Owner may order that locations, lines and grades for Work vary from those shown on Drawings. Changes may be made in locations, lines or grades for Work under any item of Contract Documents. No payment in addition to unit price fixed in the Contract Documents for Work under respective items will be allowed on account of variations from Drawings in unit price items. In lump sum contracts, or where there are no unit price items covering Work affected by variations of locations, lines or grades, all changes in the Contract Documents will be made as set forth in Article XIV of this Document 00 7200.

5.07. Ownership And Use Of Drawings, Specifications And Contract Documents

A. Drawings, Specifications and other Contract Documents were prepared for use for Work of Contract Documents only. No part of Contract Documents shall be used for any other construction or for any other purpose except with the written consent of Owner. Any unauthorized use of Contract Documents is prohibited and at the sole liability of the user.

ARTICLE VI – CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

6.01. Owner's Right To Perform Construction And To Award Separate Contracts

- A. Owner may perform with its own forces, construction or operations related to the Project. Owner may also award separate contracts in connection with other portions of the Project or other construction or operations, on the Site or areas contiguous to the Site, under conditions similar to these Contract Documents, or may have utility owners perform other work. When separate contracts are awarded for different portions of the Project or other construction or operations on the Site, the term "Contractor" in these Contract Documents shall mean the Contractor herein.
- B. Currently anticipated separate construction contracts (if any) are described in Document 01 1000 (Summary of Work).

6.02. Mutual Responsibility

A. Contractor shall afford all other contractors, utility owners and Owner (if Owner is performing work with its own forces), proper and safe access to the Site, and reasonable opportunity for the installation and storage of their materials. Contractor shall ensure that the execution of its Work properly connects and coordinates with others' work, and shall cooperate with them to facilitate the progress of the Work.

- B. Contractor shall coordinate its Work with the work of other separate contractors, Owner, and utility owners. Contractor shall hold coordination meetings with other contractors, Owner and its representatives, and utility owners as required by the contract documents.
- C. Unless otherwise provided in the Contract Documents, Contractor shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. Contractor shall not endanger any work of other separate contractors, Owner or utility owners by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of Owner and the others whose work will be affected.
- D. To the extent that any part of Contractor's Work is to interface with work performed or installed by other contractors or utility owners, Contractor shall inspect and measure the in-place work. Contractor shall promptly report to Owner in writing any defect in in-place work that will impede or increase the cost of Contractor's interface unless corrected. Owner will require the contractor responsible for the Defective Work to make corrections so as to conform to its contract requirements, or, if the defect is the result of an error or omission in the Contract Documents, issue a Change Order. If Contractor fails to measure, inspect and/or report to Owner in writing defects that are reasonably discoverable, Contractor shall be ar all costs of accomplishing the interface acceptable to Owner. This provision shall be included in any and all other contracts or subcontracts for Work to be performed where such a conflict could exist.

6.03. Owner Authority Over Coordination Of Multiple Contractors

- A. Owner will have authority over coordination of the activities of multiple contractors in cases where Owner performs work with its own forces or contracts with others for the performance of other work on the Project, or utilities work on the Site. Owner may at any time and in its sole discretion, designate a person or entity other than Owner to have authority over the coordination of the activities among the various contractors. Owner's authority with respect to coordination of the activities of multiple contractors and utility owners shall not relieve Contractor of its obligation to other contractors and utility owners to coordinate its Work with other contractors and utility owners as specified in this Document 00 7200. Contractor shall promptly notify Owner in writing when another contractor on the Project fails to coordinate its work with the Work of Contract Documents.
- B. Contractor shall suspend any part of the Work or carry on the same in such manner as directed by Owner when such suspension or prosecution is necessary to facilitate the work of other contractors or workers. No damages or claims by Contractor will be allowed if the suspension or Work change is due in whole or in part to Contractor's failure to perform its obligation herein to coordinate its Work with other contractors and utility owners. Claims will be allowed only to the extent of fault by Owner if the suspension or Work change is due in whole or in part to another contractor's failure to coordinate its work with Contractor, other contractors, and utility owners.

ARTICLE VII – PAYMENT BY OWNER

7.01. Receipt And Processing Of Applications For Payment

A. Contractor shall prepare and submit a Schedule of Values in the amount of the final contract price that reflects the entire scope of work needed to fulfill the contract requirements. The Contractor shall submit Applications for Payment on or about the 25th day of each month for the duration of the contract and warrant title to all Work covered by each Application for Payment. Owner will review Contractor's Applications for Payment and Owner will and make payment thereon, and Contractor shall make payments to Subcontractors, suppliers and others.

ARTICLE VIII – CONTROL OF THE WORK

8.01. Contractor and Subcontractors

A. The Contractor is fully responsible for Contractor's own acts and omissions. Contractor is responsible for all acts and omissions of its Subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work, labor, materials, or equipment under a direct or indirect contract with Contractor.

8.02. Supervision Of Work By Contractor

- A. Contractor shall coordinate the Work and not delegate any responsibility for coordination to any subcontractor. Contractor shall anticipate the inter-relationship of all subcontractors and their relationship with the total Work. Contractor shall coordinate the work of subcontractors and material suppliers, so that their work is performed in a manner to minimize interference with and to facilitate the progress of the Work.
- B. Contractor shall supervise, inspect, and direct Work competently and efficiently, devoting the attention and applying such personal skills and expertise as may be required and necessary to perform Work in accordance with Contract Documents. Contractor shall be solely responsible for and have control and charge of construction means, methods, techniques, sequences and procedures, safety precautions and programs in connection with the Work. Contractor shall be responsible to see that the completed Work complies accurately with Contract Documents.
- C. Contractor shall designate and keep on the Site at all times during Work progress a competent resident Superintendent or Project Manager, who once designated, shall not be replaced without Owner's express written consent. If Contractor proposes to replace any Superintendent or Project Manager, the existing Superintendent or Project Manager shall remain on the Project until a new Superintendent or Project Manager is approved by Owner. The Superintendent or Project Manager shall be Contractor's representative at the Site and shall have complete authority to act on behalf of Contractor. All communications to and from the Superintendent or Project Manager shall be as binding as if given to or by Contractor.

8.03. Observation Of Work By Owner

- A. <u>Owner Representative(s)</u>. Owner Representative(s) will have limited authority to act on behalf of Owner as set forth in the Contract Documents. Except as otherwise provided in these Contract Documents or subsequently identified in writing by Owner, Owner will issue all communications to Contractor through Owner Representative(s), and Contractor shall issue all communications to Owner through Owner Representative(s) in a written document delivered to Owner. Should any direct communications between Contractor and Owner's consultants, architects or Architect/Engineers not identified in Article II of the Agreement occur during field visits or by telephone, Contractor shall immediately confirm them in a written document copied to Owner.
- B. <u>Means And Methods Of Construction</u>. Subject to those rights specifically reserved in the Contract Documents, Owner will not supervise, or direct, or have control over, or be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or Contractor's failure to comply with laws and regulations applicable to the furnishing or performance of Work. Owner will not be responsible for Contractor's failure to perform or furnish the Work in accordance with Contract Documents.
- C. In exercising its responsibilities and authorities under the Contract Documents, Owner does not assume any duties or responsibilities to any Subcontractor or supplier and does not assume any duty of care to Contractor, Contractor's Subcontractors or suppliers. Except as expressly set forth in the Contract Documents, in exercising their respective responsibilities and authorities under the Contract Documents, neither Architects/Engineers nor any Owner Representative(s) assume any duties or responsibilities to any Subcontractor, sub-Subcontractor or supplier nor assume any duty of care to Contractor or any Subcontractor, sub-Subcontractor or suppliers.

- D. Work shall be performed under Owner's general observation and administration. Contractor shall comply with Owner's directions and instructions in accordance with the terms of Contract Documents, but nothing contained in these General Conditions shall be taken to relieve Contractor of any obligations or liabilities under the Contract Documents. Owner's failure to review or, upon review, failure to object to any aspect of Work reviewed, shall not be deemed a waiver or approval of any non-conforming aspect of Work.
- E. Owner may engage an independent consultant or Architect/Engineer (collectively for purposes of this paragraph, "**Consultant**") to assist in administering the Work. If so engaged, Consultant will advise and consult with Owner, but will have authority to act on behalf of Owner only to extent provided in the Contract Documents or as set forth in writing by Owner. Consultant will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with Work. Consultant will not be responsible for or have control over the acts or omissions of Contractor, Subcontractors or their agents or employees, or any other persons performing Work.
- F. Consultant may review Contractor's submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with design concept of Work and with information given in the Contract Documents.
- G. Consultant may visit the Site at intervals appropriate to stage of construction to become familiar generally with the progress and quality of Work and to determine in general if Work is proceeding in accordance with Contract Documents. Based on its observations, Consultant may recommend to Owner that it disapprove or reject Work that Consultant believes to be defective or will not produce a complete Project that conforms to Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by Contract Documents. Owner will also have authority to require special inspection or testing of Work, whether or not the Work is fabricated, installed or completed.
- H. Consultant may conduct inspections to recommend to Owner the dates that Contractor has achieved Substantial Completion and Final Acceptance, and will receive and forward to Owner for review written warranties and related documents required by Contract Documents.

8.04. Access To Work

- A. During performance of Work, Owner and its agents, officers, consultants, and employees may at any time enter upon Work, shops or studios where any part of the Work may be in preparation, or factories where any materials for use in Work are being or are to be manufactured, and Contractor shall provide proper and safe facilities for this purpose, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as Owner's interests may require. Other contractors performing work for Owner may also enter upon Work for all purposes required by their respective contracts. Subject to the rights reserved in the Contract Documents, Contractor shall have sole care, custody, and control of the Site and its Work areas.
- B. Owner may, at any time, and from time to time, during the performance of the Work, enter the Work Site for the for the purpose of installing any necessary work by Owner labor or other contracts, and for any other purpose in connection with the installation of facilities. In doing so, Owner shall endeavor not to interfere with Contractor and Contractor shall not interfere with other work being done by or on behalf of Owner.
- C. If, prior to completion and final acceptance of all the Work, Owner takes possession of any structure or facility (whether completed or otherwise) comprising a portion of the Work with the intent to retain possession thereof (as distinguished from temporary possession contemplating return to Contractor), then, while Owner is in possession of the same, Contractor shall be relieved of liability for loss or damage to such structure other than that resulting from Contractor's fault or negligence. Such taking of possession by Owner shall not relieve Contractor from any provisions of the Contract respecting such structure, other than to the extent specified in the preceding sentence, nor constitute a final acceptance of such structure or facility. See also Document 01 1000 (Summary of Work).

D. If, following installation of any equipment or facilities furnished by Contractor, defects requiring correction by Contractor are found, Owner shall have the right to operate such unsatisfactory equipment or facilities and make reasonable use thereof until the equipment or facilities can be shut down for correction of defects without injury to Owner.

ARTICLE IX – CONTRACTOR'S WARRANTY, GUARANTY, AND INSPECTION OF WORK

9.01. Warranty And Guaranty

- A. General Representations and Warranties: Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every Phase of the Work. Contractor warrants that all pre-construction services and construction services shall be performed in accordance with generally accepted professional standards of good and sound preconstruction and construction practices, as applicable, and all requirements of Contract Documents. Contractor warrants that Work, including but not limited to each item of materials and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use, and free from defects in materials, construction and workmanship; and to the extent Work includes design-build scope or compliance with performance specifications. Work shall also be free from defects in design, architecture and/or engineering. Contractor warrants that Work shall conform in all respects with all applicable requirements of federal, state and local laws, applicable construction codes and standards, licenses, and permits, Drawings and Specifications and all descriptions set forth therein, and all other requirements of Contract Documents. Contractor shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, design parameters and means or methods of construction where that is specifically shown and expressly required by Contract Documents.
- B. <u>Extended Guaranties:</u> For guaranties exceeding one (1) year, Contractor's co-guarantor obligation shall apply only to the extent the guaranty involves water-tightness (above grade or below grade) or any type of moisture intrusion. Otherwise, any guaranty exceeding one (1) year provided by the supplier or manufacturer of any equipment or materials used in the Project shall be extended for such term. Contractor expressly agrees to supply Owner with all warranty and guaranty documents relative to equipment and materials incorporated in the Project and guaranteed by their suppliers or manufacturers, and reasonably assist Owner in enforcing such warranties and guaranties throughout their respective terms.
- C. <u>Environmental and Toxics Warranty:</u> The covenants, warranties and representations contained in this paragraph are effective continuously during Contractor's Work on the Project and following cessation of labor for any reason including, but not limited to, Project completion. Contractor covenants, warrants and represents to Owner that:
 - 1. To Contractor's knowledge after due inquiry, no lead or asbestos-containing materials were installed or discovered in the Project at any time during Contractor's construction thereof. If any lead or asbestos-containing materials were discovered, Contractor made immediate written disclosure to Owner.
 - 2. To Contractor's knowledge after due inquiry, no electrical transformers, light fixtures with ballasts or other equipment containing PCBs are or were located on the Project at any time during Contractor's construction thereof.
 - 3. To Contractor's knowledge after due inquiry, no storage tanks for gasoline or any other toxic substance are or were located on the Project at any time during Contractor's construction thereof. If any such materials were discovered, Contractor made immediate written disclosure to Owner.
 - 4. Contractor's operations concerning the Project are and were not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code or regulation, or requiring or calling attention to the need for any work, repairs, construction, alteration, or installation on or in connection with the Project in order to comply with any such laws, ordinances, codes, or regulations, with which Contractor has

not complied. If there are any such notices with which Contractor has complied, Contractor shall provide Owner with copies thereof.

9.02. Inspection Of Work

- A. All materials, equipment, and workmanship used in Work shall be subject to inspection and testing at all times during construction and/or manufacture in accordance with the terms of Contract Documents. Work and materials, and manufacture and preparation of materials, from beginning of construction until final completion and acceptance of Work, shall be subject to inspection and rejection by Owner, its agents, representatives or independent contractors retained by Owner to perform inspection services, or governmental agencies with jurisdictional interests. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and program so that they may comply therewith as applicable. Upon request or where specified, Owner shall be afforded access for inspection at the source of supply, manufacture or assembly of any item of material or equipment, with reasonable accommodations supplied for making such inspections.
- B. Contractor shall give Owner and all inspection personnel timely notice of readiness of Work for all required inspections, tests or approvals, shall schedule and coordinate the same, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests. Contractor shall also coordinate, schedule and give adequate notice to the appropriate inspection personnel of any Work that can only be inspected as it is placed or assembled (for example, concrete or masonry work), to enable the constant presence of such inspection personnel during such Work.
- C. In the event that a scheduled inspection is canceled in less than 24 hours' notice by Contractor and Owner incurs costs associated with the cancellation, Contractor will reimburse Owner for the actual costs of the canceled inspections. The amount will be deducted from payment owed Contractor.
- D. If applicable laws or regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, and furnish Owner with the required certificates of inspection, or approval. Owner will pay the cost of initial testing and Contractor shall pay all costs in connection with any follow-up or additional testing. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.
- E. If Contractor covers any Work, or the work of others, prior to any required inspection, test or approval without written approval of Owner, Contractor shall uncover the Work at Owner's request. Contractor shall bear the expense of uncovering Work and replacing Work.
- F. In any case where Contractor covers Work contrary to Owner's request, Contractor shall uncover Work for Owner's observation or inspection at Owner's request. Contractor shall bear the cost of uncovering Work and replacing Work.
- G. Whenever required by Owner, Contractor shall furnish tools, labor and materials necessary to make examination of Work that may be completed or in progress, even to extent of uncovering or taking down portions of finished Work. Should Work be found unsatisfactory, cost of making examination and of reconstruction shall be borne by Contractor. If Work is found to be satisfactory, Owner, in manner herein prescribed for paying for alterations, modifications, and extra Work, except as otherwise herein specified, will pay for examination.
- H. Inspection of the Work by or on behalf of Owner, or Owner's failure to do so, shall not under any circumstances be deemed a waiver or approval of any non-conforming aspect of the Work. Rather, in the absence of a written Change Order or Instruction Bulletin signed by Owner, Contractor's duty to perform Work in conformance with the Contract Documents shall be absolute.

I. Any inspection, evaluation, or test performed by or on behalf of Owner relating to the Work is solely for the benefit of Owner, and shall not be relied upon by Contractor. Contractor shall not be relieved of the obligation to perform Work in accordance with the Contract Documents, nor relieved of any guaranty, warranty, or other obligation, as a result of any inspections, evaluations, or tests performed by Owner, whether or not such inspections, evaluations, or tests are permitted or required under the Contract Documents. Contractor shall be solely responsible for testing and inspecting Work already performed to determine whether such Work is in proper condition to receive later Work.

9.03. Correction Of Defective Work

- A. If Contractor fails to supply sufficient skilled workers, suitable materials or equipment, or to furnish or perform the Work in such a way that the completed Work will conform to Contract Documents, Owner may order Contractor to replace any Defective Work, or stop any portion of Work to permit Owner (at Contractor's expense) to replace such Defective Work. These Owner rights are entirely discretionary on the part of Owner, and shall not give rise to any duty on the part of Owner to exercise the rights for the benefit of Contractor or any other party.
- B. Owner may direct Contractor to correct any Defective Work or remove it from the Site and replace it with Work that is not defective and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting from the correction or removal. Contractor shall be responsible for any and all claims, costs, losses and damages caused by or resulting from such correction or removal. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may decide the proper amount or, in its discretion may elect to leave the Contract Sum unchanged and deduct from moneys due Contractor, all such claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with Owner's calculations, it may make a claim as provided in Article XII of this Document 00 7200. (Owner exercise of its rights under this Article IX shall be entirely discretionary and, like all other Owner rights and remedies under the Contract Documents or by law.)
- C. <u>Correction period</u>.
 - 1. With respect to equipment and machinery supplied by Contractor and incorporated into the Work, if within one (1) year after the date of Final Completion of the portion of the Work incorporating the equipment and/or machinery (or, to the extent expressed by Change Order or Certificate of Final Completion, one year after Owner's written acceptance of such equipment), or such longer period as may be prescribed by laws or regulations, or by the terms of the Contract Documents, any equipment or machinery is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work
 - 2. With respect to structures within the scope of Work, if within one (1) year after the date of Final Acceptance, or such longer period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents, any Work is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work.
 - 3. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced.
 - 4. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.

- D. Additionally, in special circumstances where a part of the Work is occupied or a particular item of equipment is placed in continuous service before Final Acceptance of all the Work, the correction period for that part of Work or that item may start to run from an earlier date if so provided by Change Order or Certificate of Substantial Completion.
- E. Where Defective Work or rejected Work (and damage to other Work resulting therefrom) has been removed and replaced under this provision after the commencement of the correction period, the correction period hereunder with respect to such Work shall be extended for an additional period of one (1) year after such removal and replacement has been satisfactorily completed.
- F. If following installation of any equipment, machinery, or facilities furnished by Contractor, defects requiring correction by Contractor are found, Owner shall have the right to operate such defective equipment or facilities and make reasonable use thereof until the equipment, machinery, or facilities can be shut down for correction of defects without causing injury to Owner.

9.04. Acceptance And Correction Of Defective Work By Owner

- A. Owner may accept Defective Work. Contractor shall pay all claims, costs, losses and damages attributable to Owner's evaluation of and determination to accept such Defective Work. If Owner accepts any Defective Work prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may deduct from moneys due Contractor, all claims, costs, losses, damages, expenses and liabilities attributable to the Defective Work. If Contractor disagrees with Owner's calculations, Contractor may make a claim as provided in Article XII of this Document 00 7200. If Owner accepts any Defective Work after final payment, Contractor shall pay to Owner, an appropriate amount as determined by Owner.
- B. Owner may correct and remedy deficiency if, after five (5) Days' written notice to Contractor, Contractor fails to correct Defective Work or to remove and replace rejected Work in accordance with this Article IX; or provide a plan for correction of Defective Work acceptable to Owner; or perform Work in accordance with Contract Documents. In connection with such corrective and remedial action, Owner may exclude Contractor from all or part of the Site; take possession of all or part of Work and suspend Contractor's Work related thereto: take possession of all or part of Contractor's tools, appliances, construction equipment and machinery at the Site: and incorporate in Work any materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, its representatives, agents, employees, and other contractors and Owner's consultants access to the Site to enable Owner to exercise the rights and remedies under this Article IX. Contractor shall be responsible for all claims, costs, losses, damages, expenses and liabilities incurred or sustained by Owner in exercising such rights and remedies. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may deduct from moneys due Contractor, all claims, costs, losses and damages caused by or resulting from the correction or removal. If Contractor disagrees with Owner's calculations, Contractor may make a claim as provided in Article XII of this Document 00 7200.

9.05. Rights Upon Inspection Or Correction

A. Contractor shall not be allowed an extension of Contract Time because of any delay in the performance of Work attributable to the exercise by Owner of its rights and remedies under this Article IX. Where Owner exercises its rights under this Article IX, it retains all other rights it has by law or under the Contract Documents including, but not limited to, the right to terminate Contractor's right to proceed with the Work under the Contract Documents and/or make a claim or back charge where a Change Order cannot be agreed upon.

B. Inspection by Owner shall not relieve Contractor of its obligation to have furnished material and workmanship in accordance with Contract Documents. Payment for Work completed through periodic progress payments or otherwise shall not operate to waive Owner's right to require full compliance with Contract Documents and shall in no way be deemed as acceptance of the Work paid therefor. Contractor's obligation to complete the Work in accordance with Contract Documents shall be absolute, unless Owner agrees otherwise in writing.

9.06. Samples and Tests of Materials and Work

- A. Contractor shall furnish, in such quantities and sizes as may be required for proper examination and tests, samples or test specimens of all materials to be used or offered for use in connection with Work. Contractor shall prepare samples or test specimens at its expense and furnish them to Owner. Contractor shall submit all samples in ample time to enable Owner to make any necessary tests, examinations, or analyses before the time it is desired to incorporate the material into the Work. Tests must be by a Laboratory accepted by Owner and paid for by Contractor. Contractor must pay all costs of all tests; if a test fails, Contractor must pay for subsequent tests until passage. The Laboratory must submit certified copies of all test reports directly to Owner and Contractor by 10 a.m. of the second workday after performing each test.
- B. Owner may inspect the production of any material, or the manufacture of any product at the source of supply. Such inspection, however, will not be undertaken until Owner is assured of the cooperation and assistance of both Contractor and producer. Owner or its authorized representatives shall have free entry at all times to the parts of the plant Manufacturing or producing such materials. Adequate facilities must be provided free of charge to make the necessary inspections. Owner assumes no obligation to inspect materials at source of supply.
- C. Owner may permit the use of certain materials or assemblies before sampling and testing if accompanied by a Certificate of Compliance stating that the materials comply in all respects with the requirements of the Contract Documents. The Manufacturer of the material or assembly must sign the Certificate of Compliance. A Certificate of Compliance must be submitted with each lot of material delivered to the Project and the lot so certified must be clearly identified in the Certificate of Compliance.
- D. Owner may sample and test all materials used pursuant to a Certificate of Compliance at any time. The fact that material is used pursuant to a Certificate of Compliance does not relieve Contractor of responsibility for incorporating material in the Work which conforms to the requirements of the Contract Documents; and any such material not conforming to such requirements will be subject to rejection whether in place or not.
- E. Owner reserves the unrestricted right to refuse to permit the use of material pursuant to a Certificate of Compliance.
- F. Owner will set the form of the Certificate of Compliance and its disposition.

9.07. Proof Of Compliance Of Contract Provisions

A. In order that Owner may determine whether Contractor has complied or is complying with requirements of Contract Documents not readily enforceable through inspection and tests of Work and materials, Contractor shall at any time, when requested, submit to Owner properly authenticated documents or other satisfactory proofs of compliance with all applicable requirements.

9.08. Acceptance

A. Inspection by Owner or its authorized agents or representatives, any order or certificate for the payment of money, any payment, acceptance of the whole or any part of Work by Owner, any extension of time, any verbal statements on behalf of Owner or its authorized agents or representatives shall not operate as a waiver or modification of any provision of the Contract Documents, or of any power reserved to Owner herein or therein or any right to damages provided in the Contract Documents. Any waiver of any breach of the Contract Documents shall not be held to be a waiver of any other subsequent breach.

ARTICLE X – CONTRACTOR'S ORGANIZATION AND EQUIPMENT

10.01. Contractor's Legal Address

A. Address and facsimile number given in Contractor's Proposal are hereby designated as Contractor's legal address and facsimile number. Contractor may change its legal address and facsimile number by notice in writing, delivered to Owner, which in conspicuous language advises Owner of a change in legal address or facsimile number, and which Owner accepts in writing. Delivery to Contractor's legal address or depositing in any post office or post office box regularly maintained by the United States Postal Service, in a wrapper with postage affixed, directed to Contractor at legal address, or of any drawings, notice, letter or other communication, shall be deemed legal and sufficient service thereof upon Contractor. Facsimile to Contractor's designated facsimile number of any letter, memorandum, or other communication on standard or legal sized paper, with proof of facsimile transmission, shall be deemed legal and sufficient service thereof upon Contractor.

10.02. Contractor's Office At The Work Site

A. Contractor shall maintain an area at the Site, which office shall be headquarters of a Contractor representative authorized to transmit to and receive from Owner, communications, instructions or Drawings. Communications, instructions, or Drawings given to Contractor's representative or delivered at the Site office in representative's absence shall be deemed to have been given to Contractor.

10.03. Contractor's Superintendents Or Forepersons

A. Contractor shall at all times be represented on Site by one or more superintendents, project managers or forepersons authorized and competent to receive and carry out any instructions that Owner may give, and shall be liable for faithful observance of instructions delivered to Contractor or to authorized representative or representatives on Site.

10.04. Proficiency In English

A. Supervisors, security guards, safety personnel and employees who have unescorted access to the Site shall possess proficiency in the English language in order to understand, receive and carry out oral and written communications or instructions relating to their job functions, including safety and security requirements.

10.05. Contractor's And Subcontractors' Employees

A. Contractor shall employ, and shall permit its Subcontractors to employ, only competent and skillful personnel to do Work. If Owner notifies Contractor that any of its employees, or any of its Subcontractors' employees on Work is incompetent, unfaithful, disorderly or profane, or fails to observe customary standards of conduct or refuses to carry out any provision of the Contract Documents, or uses threatening or abusive language to any person on Work representing Owner, or violates sanitary rules, or is otherwise unsatisfactory, and if Owner requests that such person be discharged from Work, then Contractor or its Subcontractor shall immediately discharge such person from Work and the discharged person shall not be re-employed on the Work except with consent of Owner.

10.06. Contractor To List Trades Working

A. Contractor shall list the trades working on the Site and their scheduled activities on a daily basis, and provide a copy of that daily list to Owner at least weekly, preferably daily.

10.07. Contractor's Use Of The Site

A. Contractor shall not make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between Owner and any owner, former owner or tenant of such land, structure or buildings. Contractor may not occupy Owner-

The Lathrop House Relocation Project Project Manual May 2018 owned property outside the limit of the Work as indicated on the Drawings unless it obtains prior written approval from Owner.

ARTICLE XI – PROSECUTION AND PROGRESS OF THE WORK

11.01. Contractor To Submit Required Schedules

- A. Contractor shall submit schedules and reports within the timeframe provided in Document 00 100, Shop Drawings and Submittal Procedures in the appropriate quantity and within the required time and in accordance with the Contract Documents (see Document 01 3300 (Contractor Submittal Procedures).
- B. Upon the County Issuance of the Project's Notice to Proceed the GC shall immediately prepare and submit all contractual related submittals for review and approval to the County. All activities pertaining to this section shall be completed within the first 30 calendar days from issuance of the Notice to Proceed.
- C. Contractor shall submit to Owner for review and discussion at the Preconstruction Conference and again prior to the first payment application. No progress payment shall be due or owing to Contractor until such schedules are submitted to and acceptable to Owner and/or Architect/Engineer as meeting the requirements of the Contract Documents. Owner's acceptance of Contractor's schedules will not create any duty of care or impose on Owner any responsibility for the sequencing, scheduling or progress of Work nor will it interfere with or relieve Contractor from Contractor's full responsibility therefor.
- D. Before commencing any portion of Work, Contractor shall inform Owner in writing as to time and place at which Contractor wishes to commence Work, and nature of Work to be done, in order that proper provision for inspection of Work may occur, and to assure measurements necessary for record and payment. Information shall be given to Owner a reasonable time in advance of time at which Contractor proposes to begin Work, so that Owner may complete necessary preliminary work without inconvenience or delay to Contractor.

11.02. Contractor To Submit Submittals And Shop Drawings

- A. Upon the County Issuance of the Project's Notice to Proceed the GC shall immediately prepare and submit all contractual related submittals for review and approval to the County. All activities pertaining to this section shall be completed within the first 30 calendar days from issuance of the Notice to Proceed.
- B. Contractor shall submit submittals and Shop Drawings to Owner (or Architect/Engineer if Owner so designates) for review in strict accordance with Contract Documents. Submission of a Shop Drawing shall constitute Contractor's representation that all requirements of Contract Documents have been complied with. All submittals will be identified as Owner may require and in the number of copies specified.
- C. Contractor shall not perform Work that requires submission of a Shop Drawing or Sample or other submittal prior to submission and favorable review of the Shop Drawing or Sample or submittal. Where a Shop Drawing or Sample or other submittal is required by Contract Documents or the final Schedule of Shop Drawing and Sample Submittals accepted by Owner, any related Work performed prior to Owner's approval of the pertinent submittal shall be at the sole expense, responsibility and risk of Contractor.

11.03. Contractor To Maintain Cost Data

A. Contractor shall maintain full and correct information as to the number of workers employed in connection with each subdivision of Work, the classification and rate of pay of each worker in form of certified payrolls, the cost to Contractor of each class of materials, tools and appliances used by Contractor in Work, and the amount of each class of materials used in each subdivision of Work. Contractor shall provide Owner with monthly summaries of this information. If Contractor maintains or is capable of generating summaries or reports comparing actual Project costs with Proposal estimates or budgets, Contractor shall provide Owner with a copy of such report upon Owner's request and whenever it is generated.

- B. Contractor shall maintain daily job reports recording all significant activity on the job, including the number of workers on Site, Work activities, problems encountered and delays. Contractor shall provide Owner with copies for each Day Contractor works on the Project, to be delivered to Owner either the same Day or the following morning before starting work at the Site. Contractor shall take monthly progress photographs of all areas of the Work. Contractor shall maintain copies of all correspondence with Subcontractors and records of meetings with Subcontractors.
- C. Owner shall have the right to audit and copy Contractor's books and records of any type, nature or description relating to the Project (including but not limited to financial records reflecting in any way costs claimed on the Project), and to inspect the Site, including Contractor's trailer, or other job Site office, and this requirement shall be contained in the subcontracts of Subcontractors working on Site. By way of example, Owner shall have the right to inspect and obtain copies of all Contract Documents, planning and design documents, proposal and negotiation documents, cost records and job cost variance reports, design modification proposals, value engineering or other cost reduction proposals, revisions made to the original design, job progress reports, photographs, and as-built drawings maintained by Contractor. Owner and any other applicable governmental entity shall have the right to inspect all information and documents maintained under this Article XI at any time during the Project and for a period of five (5) years following Final Completion. This right of inspection shall not relieve Contractor of its duties and obligations under the Contract Documents. This right of inspection shall be specifically enforceable in a court of law, either independently or in conjunction with enforcement of any other rights in the Contract Documents.
- D. Contractor shall maintain in a safe place at the Site one (1) record copy of all Drawings, Specifications, Addenda, Contract Modifications, Change Orders, Work Directives, Force Account orders, and written interpretations and clarifications in good order and annotated to show all changes made during construction. These Project Record Documents, together with all approved Samples and a counterpart of all approved Shop Drawings, shall be maintained and available to Owner for reference. Upon completion of the Work, Contractor shall deliver to Owner, the Project Record Documents, Samples and Shop Drawings and as-built drawings.

11.04. Contractor To Supply Sufficient Workers And Materials

- A. Unless otherwise required by Owner under the terms of Contract Documents, Contractor shall at all times keep on the Site materials and employ qualified workers sufficient to prosecute Work at a rate and in a sequence and manner necessary to complete Work within the Contract Time. This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.
- B. At any time during progress of Work should Contractor directly or indirectly (through Subcontractors) refuse, neglect, or be unable to supply sufficient materials or employ qualified workers to prosecute the Work as required, then Owner may require Contractor to accelerate the Work and/or furnish additional qualified workers or materials as Owner may consider necessary, at no cost to Owner. If Contractor does not comply with the notice within three (3) Business Days of date of service thereof, Owner shall have the right (but not a duty) to provide materials and qualified workers to finish the Work or any affected portion of Work, as Owner may elect. Owner may, at its discretion, exclude Contractor from the Site, or portions of the Site or separate work elements during the time period that Owner exercises this right. Owner will deduct from monies due or which may thereafter become due under the Contract Documents, the sums necessary to meet expenses thereby incurred and paid to persons supplying materials and doing Work. Owner will deduct from funds or appropriations set aside for purposes of Contract Documents the amount of such payments and charge them to Contractor as if paid to Contractor. Contractor shall remain liable for resulting delay, including liquidated damages and indemnification of Owner from claims of others.
- C. Exercise by Owner of the rights conferred upon Owner in this subparagraph is entirely discretionary on the part of Owner. Owner shall have no duty or obligation to exercise the rights referred to in this subparagraph and its failure to exercise such rights shall not be deemed

an approval of existing Work progress or a waiver or limitation of Owner's right to exercise such rights in other concurrent or future similar circumstances. (The rights conferred upon Owner under this subparagraph are, like all other such rights, cumulative to Owner's other rights under any provision of the Contract Documents.)

11.05. Contractor To Locate Underground Facilities

- A. During construction, Contractor shall comply with Government Code sections 4216 to 4216.9, and in particular section 4216.2 which provides, in part: "Except in an emergency, every person planning to conduct any excavation shall contact the appropriate regional notification center at least two (2) working days, but no more than fourteen (14) calendar days, prior to commencing that excavation, if the excavation will be conducted in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the excavator, and, if practical, the excavator shall delineate with white paint or other suitable markings the area to be excavated. The regional notification center shall provide an inquiry identification number to the person who contacts the center and shall notify any member, if known, who has a subsurface installation in the area of the proposed excavation."
- B. Contractor shall contact USA (Underground Service Alert), and schedule the Work to allow ample time for the center to notify its members and, if necessary, for any member to field locate and mark its facilities. Contractor is charged with knowledge of all subsurface conditions reflected in USA records. Prior to commencing excavation or trenching work, Contractor shall provide Owner with copies of all USA records secured by Contractor. Contractor shall advise Owner of any conflict between information provided in Document 00 3020 (Geotechnical Data and Existing Conditions), the Drawings and that provided by USA records. Contractor's excavation shall be subject to and comply with the Contract Documents, including without limitation Articles II and VIII of this Document 00 7200.
- C. Contractor shall also investigate the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, new asphalt, meters and junction boxes, on or adjacent to the Site, even if not shown or indicated in Document 00 3020 (Geotechnical Data and Existing Conditions), the Drawings or that provided by USA records. Contractor shall immediately secure all such available information and notify Owner and the utility owner, in writing, of its discovery.

11.06. Contractor To Protect Underground Facilities

- A. At all times during construction, all operating Underground Facilities shall remain in operation, unless the Contract Documents expressly indicate otherwise. Contractor shall maintain such Underground Facilities in service where appropriate; shall repair any damage to them caused by the Work; and shall incorporate them into the Work, including reasonable adjustments to the design location (including minor relocations) of the existing or new installations. Contractor shall take immediate action to restore any in service installations damaged by Contractor's operations.
- B. Prior to performing Work at the Site, Contractor shall lay out the locations of Underground Facilities that are to remain in service and other significant known underground installations indicated by the Underground Facilities Data. Contractor shall further locate, by carefully excavating with small equipment, potholing and principally by hand, all such utilities or installations that are to remain and that are subject to damage. If additional utilities whose locations are unknown are discovered, Contractor shall immediately report to Owner for disposition of the same. Additional compensation or extension of time on account of utilities not shown or otherwise brought to Contractor's attention, including reasonable action taken to protect or repair damage, shall be determined as provided in this Document 00 7200.
- C. The cost of all of the following will be included in the Contract Sum and Contractor shall have full responsibility for (a) reviewing and checking all available information and data including, but not limited to, Document 00 3020 (Geotechnical Data and Existing Conditions) and

information on file at USA; (b) locating all Underground Facilities shown or indicated in the Contract Documents, available information, or indicated by visual observation including, but not limited to, and by way of example only, engaging qualified locating services and all necessary backhoeing and potholing; (c) coordination of the Work with the owners of such Underground Facilities during construction; and (d) the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

11.07. Contractor To Not Disrupt Owner Operation

A. Contractor shall schedule and execute all Work in a manner that does not interfere with or disrupt Owner operations, including but not limited to, parking, utilities (electricity, gas, water), noise, access by employees and administration, access by vendors, physicians, patients and any other person or entity using Owner facilities or doing business with Owner. Contractor shall produce and supply coordination plans and requests to Owner, following Owner procedures, for all necessary interference of construction with Owner, which Owner will reasonably cooperate with, as further described in Document 01 1000 (Summary of Work).

ARTICLE XII – CLAIMS BY CONTRACTOR / NON-JUDICIAL SETTLEMENT PROCEDURE

12.01. Scope

- A. The claim notice and documentation procedure described in this Article XII applies to all claims and disputes arising under the Contract Documents, including without limitation any claim or dispute by any Subcontractor or material supplier, and any claims arising under tort law as well as contract law. All Subcontractor and supplier claims of any type shall be brought only through Contractor as provided in this Article XII. Under no circumstances shall any Subcontractor or supplier make any direct claim against Owner.
- B. "Claim" means a written demand or written assertion by Contractor seeking, as a matter of right, the payment of money, the adjustment or interpretation of Contract Documents terms, or other relief arising under or relating to Contract Documents. In order to qualify as a "claim," the written demand must state that it is a claim submitted under this Article XII. A voucher, invoice, proposed change, Application for Payment, cost proposal, RFI, change order request, or other routine or authorized form of request for payment is not a claim under the Contract Documents. If such request is disputed as to liability or amount, then the disputed portion of the submission may be converted to a claim under the Contract Documents by submitting a separate notice and claim in compliance with claim submission requirements herein.
- C. The provisions of this Article XII constitute a non-judicial claim settlement procedure, and also step one of a two-step claim presentment procedure by agreement under Section 930.2 of the California Government Code. Specifically, step one is compliance with this contract claims procedure and filing/administering timely contract claims in accordance with the Contract Documents. Step two is filing a timely Government Code section 910 claim in accordance with the California Government Code. Any Government Code section 910 claims shall be presented in accordance with the Government Code and shall affirmatively indicate Contractor's prior compliance with the claims procedure herein and previous dispositions under this Article.
- D. The provisions of this Article XII shall survive termination, breach or completion of the Contract Documents. Contractor shall bear all costs incurred in the preparation and submission of a claim.

12.02. Procedure

A. <u>Disputed Work.</u> Should any clarification, determination, action or inaction by Owner or Architects/Engineers, Work, third party, or any other event whatsoever, in the opinion of Contractor, exceed the requirements of or not comply with Contract Documents in any way, or otherwise result in Contractor seeking additional compensation in time or money or damages

for any reason (collectively "Disputed Work"), then Contractor shall so notify Owner. Contractor and Owner shall make good faith attempts to resolve informally any and all such issues, claims and/or disputes.

- B. <u>Duty to Work During Disputes.</u> Notwithstanding any dispute or Disputed Work, Contractor shall continue to prosecute the Work and the Disputed Work in accordance with the determinations of Owner. Contractor's sole remedy for Disputed Work is to pursue the remedies in this Article XII and follow the determinations of Owner.
- C. <u>Timely Notice of Disputed Work Required.</u> Before commencing any Disputed Work, or within five (5) Days after Contractor's first knowledge of the Disputed Work, whichever is earlier, Contractor shall file a written notice and preliminary cost proposal for the Disputed Work with Owner stating clearly and in detail its objection and reasons for contending the Disputed Work is outside or in breach of the requirements of Contract Documents. The written notice must identify the subcontractors, vendors, suppliers effected, if any, sufficient for Owner to visit the site to inspect the work and/or conduct a telephonic interview of the persons involved, and/or to photograph the work in question; and Contractor is encouraged to supply digital photographs by email if possible. The preliminary cost proposal must provide a good faith preliminary estimate of the labor (workers, crews), equipment and/or materials involved, and a corresponding good faith preliminary estimate of cost. Unless an extension of time is allowed under paragraph 12.06.C. below, if a written notice and preliminary cost proposal for Disputed Work without first having given the notice of the Disputed Work, Contractor shall waive its rights to further claim on the specific issue.
- D. <u>Timely Notice of Potential Claims Required.</u> Owner will review Contractor's timely notice and preliminary cost proposal for Disputed Work and provide a decision. If, after receiving the decision, Contractor disagrees with it or still considers the Work required of it to be outside of the requirements of Contract Documents, then Contractor shall so notify Owner, in writing, within ten (10) Days after receiving the decision, by submitting a notice of potential claim, stating that a formal claim will be issued. If Owner should fail to provide a decision on a notice and preliminary cost proposal within thirty (30) days, then Contractor shall submit a notice of potential claim within ten (10) days following the thirtieth (30th) day, i.e., or by the 40th day following the notice and preliminary cost proposal. Contractor shall continue to prosecute the Disputed Work to completion.
- E. <u>Quarterly Claims Required.</u> (Not used)
- F. <u>Claim Updates Required.</u> If Disputed Work persists longer than a thirty (30) calendar days, the Contractor shall, every month thereafter quarter until the Disputed Work ceases, submit to Owner a document titled "Claim Update" that shall update and quantify all elements of the claim as completely as possible. Contractor's failure to submit a Claim Update or to quantify costs every quarter shall result in waiver of the claim for that period. Claims or Claim Updates stating that damages, total damages (direct and indirect), schedule impact and/or any time extension will be determined at a later date shall not comply with this subparagraph and shall result in Contractor waiving its claim(s). Contractor shall also maintain a continuing "claims log" that shall list all outstanding claims and their value, and provide such log to Owner quarterly.
- G. <u>Claim Negotiations required.</u> Upon receipt of Contractor's formal claim(s) including all arguments, justifications, cost or estimates, schedule analysis, and documentation supporting its position as required herein, Owner or its designee will review the issue and render a final determination. Contractor and Owner may mutually agree upon a claims resolution protocol, a neutral facilitator or mediator, or other alternative dispute resolution procedures, as appropriate. Owner may in its discretion conduct an administrative hearing on Contractor's

claim, in which case Contractor shall appear, participate, answer questions and inquiries, and present any further document, schedules or analysis requested by Owner to evaluate and decide Contractor's claim.

12.03. Claim Format

- A. Contractor shall submit the formal claim(s) with a cover letter and certification of the accuracy of the formal claim.
- B. The formal claim(s) shall list separately each notice of potential claim that Contractor intends to pursue as a formal claim(s), and for each such item separately, Contractor shall provide the following:
 - 1. Summary of the claim, including underlying facts, entitlement, schedule analysis, quantum calculations, contract provisions supporting relief;
 - 2. List of documents relating to claim including Specifications, Drawings,
 - clarifications/requests for information, schedules, notices of delay, and any others;
 - 3. Chronology of events and correspondence;
 - 4. Analysis of claim merit;
 - 5. Analysis of claim cost; and
 - 6. Attach supporting cost and schedule documents as required in this Article and elsewhere in the Contract Documents (e.g., Document 01 2600).
- C. For each notice of potential claim that Contractor intends to pursue as a formal claim, Contractor shall establish in the formal claim a direct causal link between the separate item of cost/time requested, the separate notices of potential claim timely issued, and the specific changed Work asserted. Total cost claims shall not be allowed.
- D. Claims shall be calculated in the same manner as Change Orders per Document 01 2600 (Contract Modification Procedures). EXCEPT WHERE PROVIDED BY LAW, OR ELSEWHERE IN THESE CONTRACT DOCUMENTS (IF APPLICABLE), OWNER SHALL NOT BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES, AND CONTRACTOR SHALL NOT INCLUDE THEM IN ITS CLAIMS. CONTRACTOR SHALL BE LIMITED IN ITS RECOVERY ON CLAIMS TO THE CHANGE ORDER CALCULATIONS SET FORTH IN DOCUMENT 01 2600.

12.04. Action on Claims and Mediation

- A. Final Decision. Upon receipt of General Contractor's formal claim(s) including all arguments, justifications, cost or estimates, schedule analysis, and documentation supporting its position as required herein, and if the claims negotiations are unsuccessful, Owner or its designee will review the issue and render a final determination. If Owner should fail to provide a decision, then such claims shall be deemed denied after 45 days following their receipt.
- B. If Contractor's claims submitted in accordance with this Article XII at Project completion total less than \$375,000, then claims resolution shall first proceed in the manner prescribed by Article 1.5, Chapter 1, Part 3 of Division 2 of the California Public Contract Code.
- C. If Contractor's claims submitted in accordance with this Article XII at Project completion exceed \$375,000, then, as a condition precedent to litigation (or if otherwise permitted by the Contract Documents, arbitration) thereon, such claims must first be mediated. Mediation shall be non-binding and utilize the services of a mediator mutually acceptable to the parties and, if the parties cannot agree, a mediator selected by the American Arbitration Association from its panel of approved mediators trained in construction industry mediation, having a minimum of twenty (20) years' experience in the construction industry. All statutes of limitation shall be tolled from the date of the demand for mediation until a date two weeks following the

mediation's conclusion. All unresolved Contractor claims shall be submitted to the same mediator. The cost of mediation shall be equally shared.

12.05. Subcontractor Claims

A. Contractor shall present as its claims all Subcontractor, sub-Subcontractor and supplier claims of any type, and prove them under the terms of the Contract Documents. Owner shall not be directly liable to any Subcontractor, any supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages or extra costs of any type arising out of or resulting from the Project.

12.06. Waiver

- A. If Contractor fails to comply with this Article XII as to any claim, then Contractor shall waive its rights to such claim. All claim(s), Disputed Work items or issue(s) not raised in a timely notice, timely notice of potential claim and then timely claim submitted under this Article XII, may not be asserted in any subsequent Government Code section 910 claim, litigation or legal action.
- B. Contractor may request an extension of time to comply with the claims procedure herein, but must do so in advance of time periods expiring and Owner must give its approval in writing (which approval may be withheld in Owner discretion.) Further, if Contractor provides its written notice and preliminary cost proposal under paragraph 12.03.B. above within 11 to 25 Days of first knowledge of the Disputed Work (i.e., up to 15 Days late), then Owner will approve the late submission provided Contractor demonstrates a manifest lack of prejudice to Owner. As to any other feature of the claim procedure herein (and its claims waiver feature), it may not be waived or altered absent a written change order signed by both parties and approved as to form by their legal counsel.
- C. Owner shall not be deemed to waive or alter any provision under this Article XII, if at Owner's sole discretion, a claim is administered in a manner not in accord with this Article XII.
- D. Owner in its sole discretion, may consider GENERAL CONTRACTOR's substantial compliance with the required initial notice and cost proposal, provided GENERAL CONTRACTOR demonstrates good faith and a manifest lack of prejudice to Owner from late written notice, for example, contemporaneous Owner/GENERAL CONTRACTOR discussions and review of Disputed Work with full opportunity to investigate and verify costs and work performed. Under no circumstances may substantial compliance be considered when the required written notice is more than twenty-one (21) calendar days late.

12.07. Intent

- A. The claim notice and documentation procedure described in this Article 12 is intended to require notice and sufficient documentation of claims, potential claims, disputes and disagreements, to permit discussions and negotiations of the matters in question, between and among all parties involved, prior to and contemporaneously with the matters in question, in sufficient time for the parties to make informed decisions, mitigate and document costs and potential costs.
- B. Under no circumstances may this procedure be interpreted, modified or viewed to permit, claims, potential claims or change order requests for Disputed Work that has been performed, covered up or otherwise become unavailable for reasonable contemporaneous verification and negotiation with involved parties

ARTICLE XIII – LEGAL AND MISCELLANEOUS

13.01. Laws And Regulations

A. Contractor shall keep fully informed of and shall comply with all laws, ordinances, regulations and orders of any properly constituted authority affecting the Contract Documents, Work and

The Lathrop House Relocation Project Project Manual May 2018 persons connected with Work, and shall, to the greatest extent permitted by law, protect and indemnify Owner and its officers, employees, consultants and agents against any claim or liability, including attorney's fees, arising from or based on violation of law, ordinance, regulation or order, whether by Contractor or by Subcontractors, employees or agents. Authorized persons may at any time enter upon any part of Work to ascertain compliance of all applicable laws, ordinances, regulations and orders.

- B. Whenever Drawings and Specifications require larger sizes or higher standards than are required by any applicable law, ordinance, regulation or order, Drawings and Specifications shall govern. Whenever Drawings and Specifications require something that will violate such laws, ordinances, regulations or orders, then such laws, ordinances, regulations or orders shall govern.
- C. Contractor shall comply with applicable portions of Title 8 (Industrial Relations), Title 19 (Public Safety), Title 22 (Social Security, Division of Health) and Title 24 (California Building Standards Code), California Code of Regulations (Uniform Building Code) (most recent edition), Public Contract Code. Whenever Contract Documents require larger sizes or higher standards than are required by any applicable law, ordinance, regulation or order, Contract Documents shall govern. Whenever Contract Documents require something that will violate such laws, ordinances, regulations or orders, then such laws, ordinances, regulations or orders shall govern.
- D. Contractor shall maintain in the Project Office a current copy of Title 19 and Title 24 of the California Code of Regulations at all times during construction.

13.02. Permits And Taxes

A. Owner shall procure building permit. Contractor shall procure all other permits and licenses applicable to the Work (including environmental matters to the extent applicable), pay all charges and fees, including fees for street opening permits, comply with, implement and acknowledge effectiveness of all permits, initiate and cooperate in securing all required notifications or approvals therefore, and give all notices necessary and incident to due and lawful prosecution of Work, unless otherwise provided herein. Contractor shall pay all sales and/or use taxes levied on materials, supplies, or equipment purchased and used on or incorporated into Work, and all other taxes properly assessed against equipment or other property used in connection with Work, without any increase in the Contract Sum. Contractor shall make necessary arrangements with proper authorities having jurisdiction over roads, streets, pipelines, navigable waterways, railroads, and other works in advance of operations, even where Owner may have already obtained permits for the Work.

13.03. Suspension Of Work

- A. Owner may, without cause, order Contractor in writing to suspend, delay or interrupt Work in whole or in part for such period of time as Owner may determine. An adjustment shall be made for increases in cost of performance of Work of the Contract Documents caused by any such suspension, delay or interruption, calculated using the measures set forth in Document 01 2600 (Contract Modification Procedures). No adjustment shall be made to extent that:
 - 1. Performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible; or
 - 2. An equitable adjustment is made or denied under any other provision of Contract Documents; or
 - 3. The suspension of Work was the direct or indirect result of Contractor's failure to perform any of its obligations hereunder. Adjustments made in cost of performance may have a mutually agreed fixed or percentage fee; if the parties cannot agree, Contractor may file a claim under Article XII of this Document 00 7200.

13.04. Termination Of Contract For Cause

A. Owner may declare Contractor in default of Contract Documents and Owner may terminate Contractor's right to proceed under the Contract Documents for cause:

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- 1. Should Contractor make an assignment for the benefit of creditors; admit in writing its inability to pay its debts as they become due; file a voluntary petition in bankruptcy; be adjudged a bankrupt or insolvent; be the subject of an involuntary petition in bankruptcy which is not dismissed within sixty (60) Days; file a petition or answer seeking for itself any reorganization, arrangement, composition, readjustment, liquidation, dissolution, or similar relief under any present or future statute, law, or regulation; file any answer admitting or not contesting the material allegations of a petition filed against Contractor in any such proceeding; or seek, consent to, or acquiesce in, the appointment of any trustee, receiver, custodian or liquidator of Contractor or of all or any substantial part of its properties or if Contractor, its directors or shareholders, take action to dissolve or liquidate Contractor; or
- 2. Should Contractor commit a material breach of the Contract Documents. If Owner declares Contractor in default due to material breach, however, Owner must allow Contractor an opportunity to cure such breach within ten (10) Days of the date of notice from Owner to Contractor providing notice of the default; or, if such breach is curable but not curable within such ten-Day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for Contractor to avail itself of a time period in excess of ten (10) Days, Contractor must provide Owner within the ten-Day period with a written plan ["cure plan"] acceptable to Owner to cure said breach which includes, for example, evidence of necessary resources, actual Subcontractor commitments, actual labor commitments, schedules and recovery schedules meeting Contract Document requirements and showing a realistic and achievable plan to cure the breach. Contractor must then diligently commence and continue such cure according to the written cure plan); or
- 3. Should Contractor violate or allow (by a Subcontractor or other person or entity for which Contractor is responsible) a violation of any valid law, statute, regulation, rule, ordinance, permit, license or order of any governmental agency applicable to the Project or Work and does not cure (or cause to be cured) such violation within ten (10) Days of the date of the notice from Owner to Contractor demanding such cure; or, if such violation is curable but not curable within such ten-Day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for Contractor to avail itself of a time period in excess of ten (10) Days, Contractor shall provide Owner within the ten-Day period with a written plan to cure said violation acceptable to Owner, and then diligently commence and continue performance of such cure according to the written plan.)
- B. If Owner at any time reasonably believes that Contractor is or may be in default under the Contract Documents as provided above, then Owner may in its sole discretion notify Contractor of this fact and request written assurances from Contractor of performance of Contract Documents and a written plan from Contractor to remedy any default under the terms of Contract Documents which Owner may advise Contractor of in writing. Contractor shall, within 10 Days of Owner's request, deliver a written cure plan which meets the requirements of the written cure plan deliverable defined above. Failure of Contractor to provide such written assurances of performance and the required written cure plan, within ten Days of request, will constitute a material breach of Contract Documents sufficient to justify termination for cause.
- C. In event of termination for cause, Owner will immediately serve written notice thereof upon Surety and Contractor. Surety shall have the rights and obligations set forth in Document 00 6113.12 (Construction Performance Bond). Subject to the Surety's rights under the Performance Bond (which rights are waived upon a default thereunder), Owner may take over the Work and prosecute it to completion by contract or by any other methods it may deem advisable.
- D. In the event of termination for cause:
 - Owner will compensate Contractor for the value of the Work delivered to Owner upon termination as determined in accordance with the Contract Documents, subject to all rights of offset and back charges, and provided that Contractor provides Owner with updated asbuilts and Project Record Documents showing the Work performed up to the date of termination. However, Owner will not compensate Contractor for its costs in terminating the Work or any cancellation charges owed to third parties.

- 2. Contractor shall deliver to Owner possession of the Work in its then condition including, but not limited to, all designs, architectural and engineering, Project records, Project Record Documents, cost data of all types, Drawings and Specifications and contracts with vendors and Subcontractors, all other documentation associated with the Project, and all construction supplies and aids dedicated solely to performing the Work which, in the normal course of construction, would be consumed or only have salvage value at the end of the construction period, and all other materials and products procured/produced as part of, or acquired in connection with performance of Work before termination. Contractor shall remain fully liable for the failure of any Work completed and materials and equipment provided through the date of such termination to comply with the provisions of the Contract Documents. The provisions of this subparagraph shall not be interpreted to diminish any right which Owner may have to claim and recover damages for any breach of Contract Documents or otherwise, but rather, Contractor shall compensate Owner for all loss, cost, damage, expense, and/or liability suffered by Owner as a result of such termination and failure to comply with Contract Documents.
- 3. Owner's rights under this subparagraph shall be specifically enforceable to the greatest extent permitted by law. Owner shall, to the extent applicable, have all other rights and remedies set forth in any Request for Proposal Document.
- E. Owner may terminate portions or parts of the Work for cause, provided these portions or parts (1) have separate geographic areas from parts or portions of the Work not terminated or (2) are limited to the work of one or more specific trades or Subcontractors. In such case, Contractor shall cooperate with a completing contractor as required under Article VI of this Document 00 7200.
- F. In the event a termination for cause is later determined to have been made wrongfully or without cause, then Contractor shall have no greater rights than if a termination for convenience had been effected (to include, as appropriate, the recovery rights specified therefore.) Any Contractor claim arising out of a termination for cause, however, shall be made in accordance with Article XII of this Document 00 7200. No other loss cost, damage, expense or liability may be claimed, requested or recovered by Contractor.

13.05. Termination Of Contract For Convenience

- A. Owner may terminate for convenience the performance of the Work under the Contract Documents in accordance with this clause in whole, or from time to time in part, whenever Owner shall determine that termination is in Owner's best interest. Termination for convenience may only be effected by Owner delivering to Contractor a written "Notice of Termination for Convenience", specifying the extent to which performance of the Work under the Contract Documents is terminated and the effective date of the termination.
- B. After receiving a notice of termination for convenience under this subparagraph, and except as otherwise directed by Owner, Contractor shall:
 - 1. Stop Work under the Contract Documents on date and to extent specified in notice of termination for convenience;
 - 2. Place no further orders or subcontracts for materials, services, or facilities except as necessary to complete portion of Work under the Contract Documents which is not terminated;
 - 3. Terminate all orders and subcontracts to extent that they relate to performance of Work terminated by the notice of termination;
 - Assign to Owner in manner, at times, and to extent directed by Owner, all right, title, and interest of Contractor under orders and subcontracts so terminated. Owner shall have the right, in its sole discretion, to settle or pay any or all claims arising out of termination of orders and subcontracts;
 - Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with approval or ratification of Owner to extent Owner may require. Owner's approval or ratification shall be final for purposes of this subparagraph;

- 6. Transfer title to Owner, and deliver in the manner, at the times, and to the extent, if any, directed by Owner, all fabricated or unfabricated parts, Work in process, completed Work, supplies, and all other material produced as part of, or acquired in connection with performance of, Work terminated by the notice of termination, and completed or partially completed drawings, drawings, specifications, information, and other property which, if the Project had been completed, would have been required to be furnished to Owner;
- 7. Use its best efforts to sell, in manner, at times, to extent, and at price or prices that Owner directs or authorizes, any property of types referred to in this subparagraph, but Contractor shall not be required to extend credit to any purchaser, and may acquire any such property under conditions prescribed and at price or prices approved by Owner. Proceeds of transfer or disposition shall be applied to reduce payments to be made by Owner to Contractor under the Contract Documents or shall otherwise be credited to the price or cost of Work covered by Contract Documents or paid in such other manner as Owner may direct;
- 8. Complete performance of the part of the Work which was not terminated by the notice of termination; and
- 9. Take such action as may be necessary, or as Owner may direct, to protect and preserve all property related to Contract Documents which is in Contractor's possession and in which Owner has or may acquire interest.
- C. After receipt of a notice of termination for convenience, Contractor shall submit to Owner its termination for convenience claim, in form and with all certifications required by Article XII of this Document 00 7200. Contractor's termination for convenience claim shall be submitted promptly, but in no event later than six (6) months from effective date of the termination. Contractor and Owner may agree upon the whole or part of the amount or amounts to be paid to Contractor because of a total or partial termination of Work under this subparagraph. If Contractor and Owner fail to agree on the whole amount to be paid to Contractor because of the termination of the Work under this subparagraph, Owner's total liability to Contractor by reason of the termination shall be the total (without duplication of any items) of:
 - 1. The reasonable cost to Contractor, without profit, for all Work performed prior to the effective date of the termination, including Work done to secure the Project for termination. Reasonable cost may not exceed the applicable percentage completion values derived from the progress schedule and the schedule of values. Deductions shall be made for cost of materials to be retained by Contractor, cost of Work defectively performed, amounts realized by sale of materials, and for other appropriate credits against cost of Work. Reasonable cost will include reasonable allowance for Project overhead and general administrative overhead not to exceed a total of ten percent (10%) of direct costs of such Work. When, in Owner's opinion, the cost of any item of Work is excessively high due to costs incurred to remedy or replace defective or rejected Work, reasonable cost to be allowed will be the estimated reasonable cost of performing the Work in compliance with requirements of Contract Documents and excessive actual cost shall be disallowed.
 - 2. A reasonable allowance for profit on actual and allowable cost of Work performed as determined in this subparagraph, provided that Contractor establishes to Owner's satisfaction that Contractor would have made a profit had the Project been completed, and provided further that the profit allowed shall not exceed 5 percent (5%) of cost.
 - 3. Reasonable costs to Contractor of handling material returned to vendors, delivered to Owner or otherwise disposed of as directed by Owner.
 - 4. A reasonable allowance for Contractor's internal administrative costs in preparing termination claim.
 - 5. Except as provided in this subparagraph, Owner shall not be liable for costs incurred by Contractor or Subcontractors after receipt of a notice of termination. Such non-recoverable costs include, but are not limited to, anticipated profits on Work not performed as of the date of termination, post-termination employee salaries, post-termination general administrative expenses, post-termination overhead or unabsorbed overhead, costs of

preparing and submitting Contractor's Proposal, attorney's fees of any type, and all costs relating to prosecution of claim or lawsuit.

- 6. Owner shall have no obligation to pay Contractor under this subparagraph unless and until Contractor provides Owner with updated and acceptable as-builts and Project Record Documents for Work completed prior to termination.
- D. In arriving at the amount due Contractor under this clause, there shall be deducted in whole (or in the appropriate part[s] if the termination is partial):
 - 1. All unliquidated advances or other payments on account previously made to Contractor, including without limitation all payments applicable to the terminated portion of Contract Documents;
 - 2. Any claim which Owner may have against Contractor in connection with Contract Documents; and
 - 3. The agreed price for, or proceeds of sale of, any materials, supplies, or other things kept by Contractor or sold under provisions of this subparagraph, and not otherwise recovered by or credited to Owner.

13.06. Contingent Assignment Of Subcontracts

- A. Contractor hereby assigns to Owner each Subcontract for a portion of the Work, provided that:
 - 1. The assignment is effective only after Owner's termination of Contractor's right to proceed under the Contract Documents (or portion thereof relating to that Subcontract) pursuant to the termination for cause subparagraphs herein.
 - 2. The Assignment is effective only for the Subcontracts which Owner expressly accepts by notifying the Subcontractor in writing;
 - 3. The assignment is subject to the prior rights, if any, of the Surety, obligated by Document 00 6113.12 (Construction Performance Bond) provided under the Contract Documents, where the Surety exercises its rights to complete the Contract;
 - 4. After the effectiveness of an assignment, Contractor shall, at its sole cost and expense, sign all instruments and take all actions reasonably requested by Owner to evidence and confirm the effectiveness of the assignment in Owner; and
 - 5. Nothing in this subparagraph shall modify or limit any of Contractor's obligations to Owner arising from acts or omissions occurring before the effectiveness of any Subcontract assignment, including but not limited to all defense, indemnity and hold-harmless obligations arising from or related to the assigned Subcontract.

13.07. Remedies and Contract Integration

- A. Subject to Contract Documents provisions regarding Contractor claims, claim review, and claim resolution, and subject to the limitations therein, the exclusive jurisdiction and venue for resolving all claims, counter-claims, disputes and other matters in question between Owner and Contractor arising out of or relating to Contract Documents, any breach thereof or the Project shall be the Superior Court of the State of California for County of San Mateo. All Owner remedies provided in the Contract Documents shall be taken and construed as cumulative and not exclusive; that is, in addition to each and every other remedy herein provided; and in all instances Owner shall have any and all other equitable and legal rights and remedies which it would have according to law.
- B. The Contract Documents, any Contract Modifications and Change Orders shall represent the entire and integrated agreement between Owner and Contractor regarding the subject matters hereof and thereof and shall constitute the exclusive statement of the terms of the parties' agreement. The Contract Documents, and any Contract Modifications and Change Orders, shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied, that relate in any way to the subject matter of the Contract Documents or written modifications. Owner and Contractor represent and agree that, except as otherwise expressly provided in the Contract Documents, they are entering into the Contract Documents and any subsequent written modification in sole reliance upon the information set forth or

referenced in the Contract Documents or Contract Modifications and the parties are not and will not rely on any other information.

- C. In any proceeding to enforce the Contract Documents, Contractor and Owner agree that the finder of fact shall receive detailed instructions on the meaning and operation of the Contract Documents, including their conditions, limitations of liability, claims and time extension procedures, and any other provisions impacting major defenses and theories of liability of the parties. Detailed findings of fact shall be requested, to verify Contract enforcement.
- D. Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the Contract Documents at any time shall not in any way affect, limit, modify or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision hereof, any course of dealing or custom of the trade or oral representations notwithstanding.

13.08. Patents

A. Fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with performance of the Work or any part thereof shall be included in the Proposal price for doing the Work. To the greatest extent permitted by law, Contractor shall defend, indemnify and hold harmless Owner and each of its officers, employees, consultants and agents, including, but not limited to, the Board, Architects/Engineers and each Owner representative, from all damages, claims for damages, costs or expenses in law or equity, including attorney's fees, arising from or relating to any claim that any article supplied or to be supplied under the Contract Documents infringes on the patent rights, copyright, royalties, trade name, trademark, service mark, trade secret or other intellectual property right of any person or persons or that the person or entity supplying the article does not have a lawful right to sell the same. Such costs or expenses for which Contractor agrees to indemnify and hold harmless the above indemnities include but are not limited to any and all license fees, whether such fees are agreed by any indemnities or ordered by a court or administrative body of any competent jurisdiction.

13.09. Substitution For Patented And Specified Articles

A. Except as noted specifically in Specifications, whenever in Specifications, material or process is designated by patent or proprietary name or by name of manufacturer, such designation shall be deemed to be used for purpose of facilitating description of material and process desired, and shall be deemed to be followed by the words "or equal" and Contractor may offer any substitute material or process that Contractor considers equal in every respect to that so designated and if material or process offered by Contractor is, in opinion of Owner, equal in every respect to that so designated, its use will be approved. However, Contractor may utilize this right only by timely submitting Document 00 6600 (Substitution Request Form) as provided in Document 00 2001(Instructions for Proposals). A substitution will be approved only if it is a true "equal" item in every aspect of its design and quality, including but not limited to its dimensions, weights, service requirements, durability, functioning, impact on contiguous construction elements, overall schedule and design.

13.10. Interest Of Public Officers

A. No representative, officer, or employee of Owner, no member of the governing body of the locality in which the Project is situated, no member of the locality in which Owner was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the Project, during the tenure of the official or for one (1) year thereafter, shall, as principal, agent, attorney or otherwise, be directly or indirectly interested, in the Contract Documents or the proceeds thereof.

13.11. Limit Of Liability

A. OWNER, AND EACH OF ITS OFFICERS, BOARD MEMBERS, EMPLOYEES, CONSULTANTS AND AGENTS INCLUDING, BUT NOT LIMITED TO,

The Lathrop House Relocation Project Project Manual May 2018 ARCHITECT/ENGINEER AND EACH OTHER OWNER REPRESENTATIVE, SHALL HAVE NO LIABILITY TO CONTRACTOR FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, EXCEPT TO THE LIMITED EXTENT THAT THESE CONTRACT DOCUMENTS OR APPLICABLE PUBLIC CONTRACTING STATUTES MAY SPECIFY THEIR RECOVERY.

13.12. Severability

- A. Any provisions or portions thereof of Contract Documents that are prohibited by, unlawful, or unenforceable under any applicable law of any jurisdiction shall as to such jurisdiction be ineffective without affecting other provisions or portions thereof in the Contract Documents.
- B. It is the intent of the parties that in case any one or more of the provisions contained in this Agreement shall be held to be invalid illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect the other provisions of this Agreement, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

13.13. Force Majeure

A. Neither party shall hold the other responsible for damages or delay in performance caused by acts of God, strikes, lockouts, accidents, or other events beyond the control of the other or the other's employees, agents, or representatives.

13.14. Ownership & Use of Instruments of Service

- A. All materials prepared by Contractor pursuant to this Agreement, including drawings, specifications, and related Project documents are the property of Owner. Contractor must provide Owner with such materials at appropriate times during this Agreement, and on termination or suspension of this Contract. Contractor may retain a copy for its records. Contractor conveys, assigns and transfers the intellectual property rights it has to such materials to Owner.
- B. In the event Owner re-uses the completed construction documents prepared pursuant to this Contract Agreement, in total or in part, on this Project site or any other site, or to complete any incomplete portion of construction documentation which Owner has already paid Contractor, Owner will defend, indemnify, and hold Contractor harmless from any and all claims, loss, damage, defense costs, expense, and other costs resulting from such use of Contractor prepared documents, unless Owner enters into an agreement with Contractor for Services in connection therewith.

13.15. Smoking Prohibited

A. Contractor will observe County law and policies prohibiting smoking in designated areas, including, but not limited to, on and around the San Mateo County Government Center.

13.16. Construction

A. The parties intend that any legal principle favoring construction of language for or against the drafter in case of dispute does not apply to this Agreement.

13.17. Compliance with Applicable Laws and Regulations

- A. Contractor shall comply with all laws, codes, regulations, rules and orders (collectively, "Regulations") applicable to the services to be provided hereunder. Contractor's violation of this provision shall be deemed a material default by Consultant, giving County a right to terminate the contract. Examples of such Regulations include but are not limited to California Occupational Safety and Health Act of 1973, Labor Code §6300 et. seq. the Fair Packaging and Labeling Act, and the standards and regulations issued there under.
- B. Contractor agrees to indemnify and hold harmless the County for any loss, damage, fine, penalty, or any expense whatsoever as a result of Contractor's failure to comply with the act and any standards or regulations issued there under.

13.18. Contracting Principles

A. All entities that contract with the County to provide services where the contract value is \$100,000 or more per budget unit per fiscal year and/or as otherwise directed by the Board, shall be fiscally responsible entities and shall treat their employees fairly. To ensure compliance with these contracting principles, all consultants and contractors shall: (1) comply with all applicable federal, state and local rules, regulations and laws; (2) maintain financial records, and make those records available upon request; (3) provide to the County copies of any financial audits that have been completed during the term of the contract; (4) upon the County's request, provide the County reasonable access, through representatives of the consultant/Contractor, to facilities, financial and employee records that are related to the purpose of the contract, except where prohibited by federal or state laws, regulations or rules.

13.19. (Not Used)

13.20. Waiver

A. If either party should waive any breach of any provision of this Agreement, it shall not thereby be deemed to have waived any preceding or succeeding breach of the same or any other provision hereof. No delay or failure to require performance of any provision of this Agreement shall constitute a waiver of that provision as to that or any other instance. Any waiver granted by a party shall be in writing and shall apply to the specific instance expressly stated.

13.21. Governing Law; Venue; Jurisdiction

A. This Agreement and any claims arising out of or relating to this Agreement and its subject matter shall be governed by and construed under the laws of California, without reference to its conflicts of law principles. All disputes hereunder shall be subject to the exclusive jurisdiction of the San Mateo County Superior Court ("Selected Venue") and each party hereby irrevocably and unconditionally consents to personal jurisdiction of the Selected Venue.

13.22. (Not Used)

13.23. (Not Used)

13.24. Contract Execution

A. Unless otherwise prohibited by law or County policy, the parties agree that an electronic copy of a signed contract, or an electronically signed contract, has the same force and legal effect as a contract executed with an original ink signature. The term "electronic copy of a signed contract" refers to a transmission by facsimile, electronic mail, or other electronic means of a copy of an original signed contract in a portable document format. The term "electronic signature using technology approved by the County. If Contractor provides an electronic copy of a signed contract to the County, Contractor shall also provide the original signed contract to the County within ten (10) days of providing the electronic copy to the County in order to enforce its rights under the contract.

13.25. Assignment of Clayton Act, Cartwright Act Claims

A. Contractor hereby assigns to the County all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec.15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the Contractor for sale to the County pursuant to this Agreement.

13.26. Authority

A. Each party executing the Contract Agreement on behalf of such entity represents that he or she is duly authorized to execute and deliver this Contract Agreement on the entity's behalf.

13.27. Wage Theft Prevention

- A. Compliance with Wage and Hour Laws: Contractor and any subcontractors it employs to complete work under this Agreement, must comply with all applicable federal, state, and local wage and hour laws. Applicable laws may include, but are not limited to, the Federal Fair Labor Standards Act, the California Labor Code, and any local Minimum Wage Ordinance or Living Wage Ordinance.
- B. County's Right to Withhold Payment: Where Contractor or any subcontractor it employs to perform work under this Agreement has been found in violation of any applicable wage and hour law by a final judgment, decision, or order of a court or government agency, the County reserves the right to withhold payment to Contractor until such judgment, decision, or order has been satisfied in full.
- C. Material Breach: Failure to comply with any part of this Section constitutes a material breach of this Agreement. Such breach may serve as a basis for termination of this Agreement and/or any other remedies available under this Agreement and/or law.

13.28. Living Wage

A. Unless otherwise exempted or prohibited by law or County policy, where applicable, as required by Chapter 2.88 of the San Mateo County Ordinance Code, Contractor certifies all contractor(s) and subcontractor(s) obligated under this contract shall fully comply with the provisions of the San Mateo Living Wage Ordinance, including but not limited to paying all Covered Employees the current Living wage and providing notice to all Covered Employees and Subcontractors as required under the Ordinance.

13.29. California Public Records Act

A. The County is a public agency subject to the disclosure requirements of the California Public Records Act ("CPRA"). If the County receives a CPRA request for documents (as defined by the CPRA) and said request relates to the Services provided pursuant to this Agreement, the County will notify Contractor of the request. If Contractor contends that any documents are confidential or proprietary material, not subject to the CPRA, and/or exempt from the CPRA, and Contractor wishes to prevent disclosure of said documents, Contractor shall obtain a protective order, injunctive relief or other appropriate remedy from a court of law in San Mateo County before the County's deadline to respond to the CPRA request. If Contractor fails to obtain such remedy within the County's deadline, the County may disclose the requested information without liability. Contractor shall defend, indemnify and hold the County harmless against any claim, action or litigation (including but not limited to all judgments, costs, fees, and reasonable attorney's fees) that may result from denial, withholding or redaction of a CPRA request for information arising from any representation, or any action (or inaction), by the Contractor.

13.30. Conflicts of Interest

A. Contractor shall comply, and require its subcontractors to comply, with all applicable (i) requirements governing avoidance of impermissible client conflicts; and (ii) federal, state and local conflict of interest laws and regulations including, without limitation, California Government Code section 1090 et. seq., the California Political Reform Act (California Government Code section 87100 et. seq.) and the regulations of the Fair Political Practices Commission concerning disclosure and disqualification (2 California Code of Regulations section 18700 et. seq.). Failure to do so constitutes a material breach of this Agreement and is grounds for immediate termination of this Agreement by the County.

- B. In accepting this Agreement, Contractor covenants that it presently has no interest, and will not acquire any interest, direct or indirect, financial or otherwise, which would conflict in any manner or degree with the performance of this Agreement. Contractor further covenants that, in the performance of this Agreement, it will not employ any Consultant or person having such an interest. Consultant, including but not limited to Consultant's employees and sub-consultants, may be subject to the disclosure and disqualification provisions of the California Political Reform Act of 1974 (the "Act"), that (1) requires such persons to disclose economic interests that may foreseeably be materially affected by the work performed under this Agreement, and (2) prohibits such persons from making or participating in making decisions that will foreseeably financially affect such interests.
- C. If the disclosure provisions of the Political Reform Act are applicable to any individual providing service under this Agreement, Contractor shall, upon execution of this Agreement, provide the County with the names, description of individual duties to be performed, and email addresses of all individuals, including but not limited to Contractor's employees, agents and subcontractors, that could be substantively involved in "making a governmental decision" or "serving in a staff capacity and in that capacity participating in making governmental decisions or performing duties that would be performed by an individual in a designated position," (2 CCR 18701(a)(2)), as part of Contractor's service to the County under this Agreement. Contractor shall immediately notify the County of the names and email addresses of any additional individuals later assigned to provide such service to the County under this Agreement in such a capacity. Contractor shall immediately notify the Course of the Agreement, end their service to the County.
- D. If the disclosure provisions of the Political Reform Act are applicable to any individual providing service under this Agreement, Contractor shall ensure that all such individuals identified pursuant to this section understand that they are subject to the Act and shall conform to all requirements of the Act and other laws and regulations listed in subsection (A) including, as required, filing of Statements of Economic Interests within 30 days of commencing service pursuant to this Agreement, annually by April 1, and within 30 days of their termination of service pursuant to this Agreement.

13.31. Assignment

A. No assignment of this Agreement or of the rights and obligations hereunder shall be valid without the prior written consent of the other party.

13.32. Third Party Beneficiaries

A. This agreement does not, and is not intended to, confer any rights or remedies upon any person or entity other than the parties.

ARTICLE XIV – MODIFICATIONS OF CONTRACT DOCUMENTS

14.01. Alterations, Modifications And Force Account Work

- A. No modification or deviation from the Drawings and Specifications will be permitted except by written addenda, written Change Order or written Supplemental Instruction.
- B. Owner may, without notice to the sureties, make alterations, deviations, additions to, or deletions from Contract Documents; increase or decrease the quantity of any item or portion of the Work; expand, contract or otherwise change the Contract Time; delete any item or portion of the Work; and require extra Work. Contractor shall perform such Work under applicable provisions of the Contract Documents, unless specifically provided otherwise at the time the change is ordered. In the case of any ordered extra Work, Owner reserves the right to furnish all or portions of associated labor, material, and equipment, which Contractor shall accept and use without payment for costs, markup, profit, or otherwise for such Owner-furnished labor, materials, and equipment.

- C. Owner may make changes to the Work during the course of construction to bring the Work into compliance with environmental requirements or standards established by state and federal statutes and regulations enacted after the Contract has been awarded. Contractor shall be compensated for changes affecting the Contract Time or Contract Sum of the Work as set forth in this Article XIV and in Document 01 2600 (Contract Modification Procedures).
- D. Changes affecting the Contract Time or Contract Sum of the Work shall be set forth in a written Change Order that shall specify:
 - 1. The Work performed in connection with the change to be made;
 - 2. The amount of the adjustment of the Contract Sum, if any, and the basis for compensation for the Work ordered; and
 - 3. The extent of the adjustment in the Contract Time, if any.
- E. A Change Order will become effective when signed by Owner. If Owner exercises its right to decide disputed issues pertaining to changed Work as set forth in Articles XII and XIV of this Document 00 7200, then the resulting Change Order shall be effective when signed by Owner, notwithstanding that Contractor has not signed it.
- F. Changes not affecting the Contract Time or Contract Sum of the Work, in Owner's discretion, may be set forth in a written RFI-Reply executed by Owner. Execution of such an RFI-Reply constitutes Contractor's agreement to make the specified change without change to the Contract Sum or the Contract Time.
- G. Changes or deviations from Contract Documents affecting the Contract Time or Contract Sum of the Work shall not be made without the authority of an effective Change Order or Construction Change Directive as provided in Document 01 2600 (Contract Modification Procedures), except in cases of emergency discussed in this Document 00 7200.
- H. If changes ordered in design, workmanship or materials are of such a nature as to increase or decrease the cost of any part of the Work, the price fixed in the Contract Documents shall be increased or decreased by the amount that Contractor and Owner may agree upon as a reasonable and proper allowance for the cost increase or decrease. If an agreement cannot be reached, then Owner will reach a determination, which shall be final, subject to Contractor's rights under Article XII of this Document 00 7200. In all cases Contractor shall perform the changed Work as directed by Owner subject to Contractor's rights under Article XII of this Document 00 7200.
- Contractor shall, upon Owner's request, permit inspection of the original unaltered Proposal estimate, subcontract agreements, purchase orders relating to the change, and documents substantiating all costs associated with its cost proposal or claims arising from changes in the Work.
- J. Changes in the Work made pursuant to this Article XIV and extensions of Contract Time necessary by reason thereof shall not in any way release the guaranties and warranties given by Contractor pursuant to provisions of the Contract Documents, nor shall such changes in the Work relieve or release the Sureties of bonds executed pursuant to said provisions. The Sureties, in executing such bonds, shall be deemed to have expressly agreed to any such change in the Work and to any extension of time made by reason thereof.
- K. Procedures for Modifications of Contract Documents and for calculating the cost of extra Work are given in Document 01 2600 (Contract Modification Procedures). Regarding delay and impact costs of any nature, Contractor may not seek delay compensation for on-Site or off-Site costs based on formulas, e.g., "Eichlay" or other formula. Rather, Contractor shall prove actual costs resulting from such delays or impacts. If Contractor requests compensation for delay to the construction, then Contractor shall prove and document actual costs plus markup per the cost categories and procedures in Document 01 2600 in order to request, claim or prove compensation for delay.
- L. Change Orders and authorization for extra cost must follow the Contract pursuant to Public Contract Code section 7501(d)(2).

14.02. Time Allowances

- A. The Contract Time may only be changed by Change Order or by Contract Modification, and all time limits stated in the Contract Documents are of the essence of Contract Documents.
- B. The Contract Time will be adjusted in an amount equal to the time lost due to:
 - 1. Changes in the Work ordered by Owner;
 - 2. Acts or neglect by Owner, Architects/Engineers, any Owner representative(s), utility owners or other contractors performing other work, provided that Contractor has fully and completely performed its responsibilities under the Contract Documents; or
 - 3. Fires, floods, epidemics, abnormal weather conditions beyond the parameters otherwise set forth in this subparagraph, earthquakes, civil or labor disturbances, strikes or acts of God, provided damages resulting therefrom are not the result of Contractor's failure to protect the Work as required by Contract Documents.
- C. The Contract Time shall not be extended for any cause identified immediately above, however, unless:
 - Contractor actually has been prevented from completing any part of the Work within the Contract Time due to delay that is beyond Contractor's control and due to reasons for which Contractor is not responsible (delays attributable to and within the control of a Subcontractor, or its subcontractors, or supplier shall be deemed to be delays within the control of Contractor);
 - 2. A claim for delay is made as provided herein; and
 - 3. Contractor submits a Time Impact Evaluation as required under Document 01 3200 (Construction Progress Documentation) that demonstrates actual delay to critical Work activities that actually delay the progress of the Work in the amount of time requested.

14.03. Notice Of Delay

A. Within five (5) Days of the beginning of any delay, Contractor shall notify Owner in writing, by submitting a Notice of Delay that shall describe all anticipated delays resulting from the delay event in question. Any request for extension of time shall include a written schedule document that demonstrates delay to the critical path using a Time Impact Evaluation. Owner will determine all claims and adjustments in the Contract Time. No claim for an adjustment in the Contract Time will be valid and such claim will be waived if not submitted in accordance with the requirements of this subparagraph.

14.04. Non-Compensable Time Extensions; Adverse Weather Parameters

- A. Where Contractor is prevented from completing any part of the Work within the Contract Time due to delay beyond the control of both Owner and Contractor (including, but not limited to, adverse weather conditions exceeding Contract Documents parameters, earthquakes, Acts of God and epidemics, acts of other contractors or utilities), an extension of Contract Time, in an amount equal to the time lost due to such delay (without compensation), shall be Contractor's sole and exclusive remedy for such delay.
- B. Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the parameters listed or referenced immediately below in this subparagraph. Adverse weather delays may be allowed only if the number of workdays of adverse weather exceeds these parameters and Contractor proves adverse weather actually caused delays to work that is on the critical path. Contractor shall give written notice of intent to claim an adverse weather day within one (1) Day of an adverse weather day occurring. Rain parameters are as follows, pro-rated in the month Contractor starts and finishes Work:
 - . 1. January, [8];
 - 2. February, [6];
 - 3. March, [6];
 - 4. April, [5];
 - 5. May, [2];
 - 6. June, [0];
 - 7. July, [0];

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- 8. August, [0];
- 9. September, [2];
- 10. October, [4];
- 11. November, [8]; and
- 12. December, [8].

In order to qualify as an adverse weather delay with respect to the foregoing parameters, daily rainfall must exceed .1 of an inch or more at the Newark, California station, as measured by the National Oceanic & Atmospheric Administration, and Contractor shall prove that the rain actually caused delay to the Work, following the procedures in this paragraph and the Contract Documents. Notwithstanding the foregoing allowances, Contractor shall at all times employ all available mitigation measures to enable Work to continue. Delays due to abnormal or adverse weather conditions will not be allowed for weather conditions that fall within the parameters listed above.

- C. Contractor shall include the foregoing precipitation parameters as a monthly activity in its progress schedule. As Work on the critical path is affected by precipitation, Contractor shall notify Owner and request that the days be moved to the affected activities. Any adverse weather days remaining shall be considered Project float.
- D. Adverse weather delay for precipitation shall be recognized for the actual period of time Contractor proves it was delayed by precipitation exceeding the specified parameters. For example, and not by way of limitation, if precipitation exceeding the specified parameters does not in fact delay Contractor's progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves to Owner's satisfaction that precipitation exceeding the specified parameters does delay to Contractor for a period longer than the number of precipitation days incurred (e.g., if it rains or snows during grading work), then Contractor shall be entitled to a time extension equal to the actual period of such delay.
- E. Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, lime treatment, and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for Owner to not grant a time extension due to adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

14.05. Compensable Time Extensions

- A. Contractor may receive a time extension and be compensated for delays caused directly and solely by Owner. Provided Contractor provides proper notice and documentation under as required by the Contract Documents, such compensation may include extended field or home office overhead, field supervision, escalation charges, acceleration costs and extended subcontractor costs.
- B. Contractor shall not be entitled to any time extension or compensation, however, for any delays caused in whole or in part by Contractor's failure to perform its obligations under the Contract Documents, or during periods of delay concurrently caused by Contractor and either Owner or others.
- C. Contractor shall not be entitled to damages for delay to the Work caused by the following reasons:
 - 1. Owner's right to sequence the Work in a manner which would avoid disruption to Owner's tenants and their contractors or other prime contractors and their respective subcontractors, exercised as a result of Contractor's failure to perform its cooperation and coordination responsibilities required by Contract Documents; Owner's enforcement of any government act or regulation; or the provisions of the Contract Documents; and
 - 2. Extensive requests for clarifications to Contract Documents or Contract Modifications thereto, provided such clarifications or Contract Modifications are processed by Owner or its consultants in a reasonable time commensurate with Contract Documents requirements.

14.06. Liquidated Damages

- A. Time is of the essence. Execution of Contract Documents by Contractor shall constitute acknowledgement by Contractor that Contractor understands, has ascertained and agrees that Owner will actually sustain damages in the amount fixed in the Contract Documents for each and every Day during which completion of Work required is delayed beyond expiration of time fixed for completion or extensions of time allowed pursuant to provisions hereof. Contractor and Owner agree that specified measures of liquidated damages shall be presumed to be the damages actually sustained by Owner as defined below, and that because of the nature of the Project, it would be impracticable or extremely difficult to fix the actual damages.
- B. Liquidated damages shall be considered not as a penalty but as agreed monetary damage sustained by Owner for increased Project administration expenses, including extra inspection, construction management and architectural and engineering expenses related to the Project and Contract Documents because Contractor failed to perform and complete Work within time fixed for completion or extensions of time allowed pursuant to provisions hereof.
- C. Owner may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages. Should Contractor fall behind the approved Progress Schedule, Owner may deduct liquidated damages based on its estimated period of late completion, in compliance with Document 00 5201 (Agreement). Owner need not wait until Final Completion to withhold liquidated damages from Contractor's progress payments. Should money due or to become due to Contractor be insufficient to cover aggregate liquidated damages due, then Contractor forthwith shall pay the remainder of the assessed liquidated damages to Owner.

14.07. Differing Site Conditions

- A. In the event that Contractor encounters any site conditions that exceed the scope of the Work, then Contractor shall promptly give Owner written notice of the condition, and shall give such notice before the conditions are disturbed, to include: (1) material that Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law, and is not within the scope of Work ("hazardous waste"); (2) subsurface or latent physical conditions at the site differing from those indicated by information about the site made available for Proposals prior to the deadline for submitting Proposals, that Contractor did not and could not have known about by performing its required pre-Proposal investigations; or (3) unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for the contract, that Contractor did not and could not have known about by performing.
 - 1. Owner shall promptly investigate the conditions, and if it finds that (i) the conditions do materially so differ in a manner Contractor did not anticipate and could not have anticipated, or do involve hazardous waste outside the scope of the Work, and (ii) cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, then (iii) Owner shall initiate a Change Order under the procedures described in the contract, including but not limited to, issuing either a Request for Proposal or a Construction Change Directive under the procedures described in the Contract Documents, including without limitation Document 01 2600 (Contract Modification Procedures).
 - 2. If Owner determines that the conditions at the Site do not materially so differ in a manner Contractor did not anticipate and could not have anticipated, or do not involve hazardous waste outside the scope of the Work, or do not cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, or for any other reason that no change in terms of the Contract Documents is justified, Owner will so notify Contractor in writing, stating reasons.

- 3. In the event that a dispute arises between Owner and Contractor whether the conditions do materially so differ, or involve hazardous waste, and cause a decrease or increase in Contractor's cost of, or the time required for, performance of any part of the Work, Contractor shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all Work to be performed under the Contract. The Contractor shall retain any and all rights provided either by the Contract or by law which pertain to the resolution of disputes and protests between contracting parties.
- B. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed hazardous waste or materials, claimed Latent or materially different Site conditions (whether above or below grade) if:
 - 1. Contractor knew of the existence of such conditions at the time Contractor submitted its Proposal; or
 - Contractor should have known of the existence of such conditions at the time Contractor submitted its Proposal, or should have learned of such conditions and mitigated their impact, as a result of having complied with the requirements of Contract Documents, including without limitation, the investigation requirements herein at Articles II and X of this Document 00 7200;
 - 3. The information or conditions claimed by Contractor to be Latent or materially different consist of information, conclusions, opinions or deductions made from Owner-provided report and information used to the extent outlined in Document 00 3020, of the kind that this Document 00 7200 precludes reliance upon; or,
 - 4. Contractor was required to give written notice and failed to do so within the time required.
- C. If, because of a differing site condition as defined herein, Contractor does not agree to continue with the Work based on a reasonable belief that it is unsafe, or does not agree to resume Work under special conditions, Owner may order the disputed portion of Work deleted from the Work, or performed by others, or Owner may invoke its right to terminate Contractor's right to proceed under the Contract Documents in whole or in part, for convenience or for cause as the facts may warrant. If Contractor does not agree with Owner's determination of any adjustment in the Contract Sum or Contract Time as a result, Contractor may make a claim as provided in Article XII of this Document 00 7200.

14.08. Change Orders Related to Underground Facilities

- A. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated in the materials supplied by Owner or in information on file at USA or is not otherwise reasonably known to Contractor by performing its obligations in Articles II and X of this Document 00 7200, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than seven Days), and prior to performing any Work in connection therewith (except in an emergency as required by Article XV of this Document 00 7200), identify the owner of such Underground Facility and give written notice to that owner and to Owner. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- B. Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, for Underground Facilities either not shown or inaccurately shown in the Contract Documents, the information supplied pursuant to Document 00 3020 (Geotechnical Data and Existing Conditions) or in information on file at USA, only where the inaccuracy was (i.) material and outside of the normal experience on projects of this nature, (ii.) was not reasonably inferable from existing information, and (iii.) directly results in a material, justifiable and actual increase in the cost of Contractor's work. For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an Underground Facility, or if the Underground Facility could be determined or its cost impact mitigated by performing the obligations in Articles II and/or X of this Document 00 7200, then an increase in the Contract Price or an extension of the Contract Time will not be due, even if the Underground Facility was not indicated or was shown at a different place or a different elevation in the Contract

Documents, in the information supplied to Contractor pursuant to Document 00 3020, or in information on file at USA.

C. Main Line and Trunk Line Utilities (Government Code section 4215). Consistent with Government Code section 4215, as between Owner and Contractor, Owner will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or Document 00 3020 (Geotechnical Data and Existing Conditions). Owner will compensate for the cost of locating and repairing damage not due to Contractor's failure to exercise reasonable care, removing and relocating such main or trunk line utility facilities not indicated in the Project necessarily idled during such work. Contractor shall not be assessed liquidated damages for delay in completion of the Project, when such delay was caused by the failure of Owner or the utility to provide for removal or relocation of such utility facilities.

ARTICLE XV – WORKING CONDITIONS AND PREVAILING WAGES

15.01. Use Of Site/Sanitary Rules

- A. All portions of the Work shall be maintained at all times in neat, clean and sanitary condition. Contractor shall furnish toilets for use of Contractor's and Subcontractors' employees on the Site where needed, and their use shall be strictly enforced. All toilets shall be properly secluded from public observation, and shall be located, constructed and maintained subject to Owner's approval.
- B. Contractor's employees, or others subject to the Contractor's control, are not permitted to reside on the Project Site in temporary living facilities.
- C. The use or possession of alcohol, weapons, or illegal controlled substances by the Contractor, or others subject to the Contractor's control, on County property is prohibited.
- D. The Contractor must ensure and maintain a workplace environment free of personal harassment and intimidation. Conduct that creates an intimidating, hostile, or offensive workplace environment is prohibited. Such conduct includes, but is not limited to, the following: verbal harassment, e.g., epithets, derogatory comments or slurs; physical harassment, e.g., assault, impeding or blocking movement, gestures, or any physical interference with normal work or movement; and visual forms of harassment, e.g., derogatory posters, letters, poems, graffiti, cartoons, or drawings. Unwelcome and unwanted sexual advances constitute sexual harassment that is prohibited. It is the responsibility of the Contractor to: inform its employees and Subcontractors that behavior that creates an intimidating, hostile, or offensive workplace environment is prohibited; create a workplace environment that is free from harassment; and take corrective action to stop prohibited behavior/conduct. If in the opinion of the Owner's Authorized Representative, any employee of the Contractor or Contractor's Subcontractors violate the prohibitions of this Article XV, Contractor must immediately remove that person or Subcontractor from the Project upon Owner's request, and such person or Subcontractor must not be permitted to perform further Work on the Project Site.
- E. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Site and land areas identified in and permitted by Contract Documents and other land and areas permitted by applicable laws and regulations, rights of way, permits and easements or as designated by Owner, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, any improvement located thereon, or to the owner or occupant thereof resulting from the performance of Work.
- F. During the progress of the Work, Contractor shall keep the Site and the Project free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall remove all waste materials, rubbish and debris from and about the Site as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the premises clean and ready for occupancy by Owner at Substantial Completion of Work. Contractor shall restore to original condition all property not designated for alteration by Contract Documents.

G. Contractor shall not load nor permit any part of any structure or pavement to be loaded in any manner that will endanger the structure or pavement, nor shall Contractor subject any part of Work or adjacent property to stresses or pressures that will endanger it. Contractor shall conduct all necessary existing conditions investigation regarding structural, mechanical, electrical or any other system existing, shall perform Work consistent with such existing conditions, and shall have full responsibility for insufficiencies or damage resulting from insufficiencies of existing systems, equipment or structures to accommodate performing the Work.

15.02. Protection Of Work, Persons, Property And Operations

- A. Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with Work. Contractor shall comply with all safety requirements specified in any safety program established by Owner, or required by state, federal or local laws and ordinances. Contractor shall be responsible for all damage to Work, property or structures, all injuries to persons, and all damage and interruptions to Owner's operations, arising from the performance of Work of the Contract Documents. Except as otherwise expressly approved by Owner in writing, Contractor shall at all times perform all Work in a manner which does not interrupt, damage or otherwise adversely impact any facilities, operations, or real or personal property of Owner, its officers, employees, agents, invitees, licensees, lessees or contractors.
- B. Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.
- C. Contractor shall remedy all damage, injury, loss or interruption to any property or operations of Owner or continuous owners of property interests, caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable. Contractor's duties and responsibility for safety and for protection of Work shall continue until such time as all the Work is completed and Final Acceptance of the Work. Owner and its agents do not assume any responsibility for collecting any indemnity from any person or persons causing damage to Contractor's Work. Contractor shall give all notices required by potentially responsible insurance carriers and require that it subcontractors and suppliers do the same.
- D. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- E. Owner may, at its option, retain such moneys due under the Contract Documents as Owner deems necessary until any and all suits or claims against Contractor for injury to persons, property or operations shall be settled and Owner receives satisfactory evidence to that effect.

15.03. Responsibility For Safety And Health

- A. Contractor shall ensure that its and each tier of Subcontractors' employees, agents and invitees comply with applicable health and safety laws while at the Site. These laws include the Occupational Safety and Health Act of 1970 and rules and regulations issued pursuant thereto, and Owner's safety regulations as amended from time to time. Contractor shall comply with all Owner directions regarding protective clothing and gear.
- B. Contractor shall be fully responsible for the safety of its and its Subcontractors' employees, agents and invitees on the Site. Contractor shall notify Owner, in writing, of the existence of hazardous conditions, property or equipment at the Site that are not under Contractor's control. Contractor shall be responsible for taking all the necessary precautions against injury to

persons or damage to the property of Contractor, Subcontractors or persons from recognized hazards until the responsible party corrects the hazard.

C. Contractor shall confine all persons acting on its or its Subcontractors' behalf to that portion of the Site where Work under the Contract Documents is to be performed: Owner designated routes for ingress and egress thereto and any other Owner designated area. Except those routes for ingress and egress over which Contractor has no right of control, within such areas, Contractor shall provide safe means of access to all places at which persons may at any time have occasion to be present.

15.04. Emergencies

A. In emergencies affecting the safety or protection of persons or Work or property at the Site or adjacent thereto, Contractor, without special instruction or authorization from Owner, is obligated to act to prevent threat and damage, injury or loss, until directed otherwise by Owner. Contractor shall give Owner prompt written notice if Contractor believes that any significant changes in Work or variations from Contract Documents have been caused thereby. If Owner determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Change Order or Construction Change Directive will be issued to document the consequences of such action.

15.05. Use Of Roadways And Walkways

A. Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic. Before beginning any interference and only with Owner's prior concurrence, Contractor may provide detour or temporary bridge for traffic to pass around or over the interference, which Contractor shall maintain in satisfactory condition as long as interference continues. Unless otherwise provided in the Contract Documents, Contractor shall bear the cost of these temporary facilities.

15.06. Nondiscrimination

A. No person or entity shall discriminate in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sexual preference, or gender of such persons, except as provided in Section 12940 of the Government Code. Every contractor for public works violating the provisions of Section 1735 of the Labor Code is subject to all the penalties imposed for a violation of Chapter 1, Part 7, Division 2 of the Labor Code.

15.07. Prevailing Wages

- A. Contractor shall pay to persons performing labor in and about Work provided for in the Contract Documents an amount equal to or more than the general prevailing rate of per diem wages for (1) work of a similar character in the locality in which the Work is performed and (2) legal holiday and overtime work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations and Owner to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this Contract. Contractor shall also cause a copy of this determination of the prevailing rate of per diem wages to be posted at each Site.
- B. Contractor shall forfeit, as a penalty to Owner, up to Two Hundred Dollars (\$200.00) for each laborer, workman, or mechanic employed in performing labor in and about the Work provided for in the Contract Documents for each Day, or portion thereof, that such laborer, workman or mechanic is paid less than the said stipulated rates for any work done under the Contract Documents by him or her or by any Subcontractor under him or her, in violation of Articles I and II of Chapter 1 of Part 7 of Division II of the California Labor Code. The sums and amounts which shall be forfeited pursuant to this subparagraph and the terms of the Labor Code shall be withheld and retained from payments due to Contractor under the Contract Documents, pursuant to this Document 00 7200 and the Labor Code, but no sum shall be so withheld,

retained or forfeited except from the final payment without a full investigation by either the State Department of Industrial Relations or by Owner. The Labor Commissioner pursuant to Labor Code section 1775 shall determine the final amount of forfeiture.

- C. Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of work or labor on Work provided for in the Contract, provision that Subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed in the Labor Code.
- D. Contractor stipulates that it shall comply with all applicable wage and hour laws, including without limitation Labor Code sections 1776 and 1810-1815. Failure to so comply shall constitute a default under this Contract.
- E. Contractor and its Subcontractors shall be responsible for compliance with Labor Code sections 1810-1815.
 - 1. Eight (8) hours of labor performed in execution of the Contract constitutes a legal day's work. The time of service of any workman employed on the Project is limited and restricted to eight (8) hours during any one (1) calendar day, and forty (40) hours during any one (1) calendar week.
 - 2. Contractor and its Subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him or her in connection with the Project. The record shall be kept open at all reasonable hours to the inspection Owner and to the Division of Labor Standards Enforcement.
 - 3. Contractor or its Subcontractors shall, as a penalty to Owner, forfeit twenty-five dollars (\$25) for each worker employed in the execution of the Contract Documents by the respective Contractor or Subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Labor Code §§ 1810-1815.
 - 4. Work performed on the Project by employees of Contractor or its Subcontractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than 1 ½ times the basic rate of pay.
- F. Contractor and its Subcontractors shall be responsible for compliance with Labor Code section 1776.
 - 1. Contractor and Subcontractors must keep accurate payroll records, showing the name, address, social security number, Work classification, straight time and overtime hours worked each Day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the Work of the Contract documents. Each payroll record shall contain or be verified by a written declaration as required by Labor Code section 1776.
 - 2. The payroll records enumerated above must be certified and shall be available for inspection at all reasonable hours at the principal office of Contractor as required by Labor Code section 1776.
 - a. Contractor shall inform Owner of the location of records enumerated above, including the street address, city and county, and shall, within five (5) working Days, provide a notice of a change of location and address.
 - b. Contractor or Subcontractor has ten (10) Days in which to comply subsequent to receipt of a written notice requesting the records enumerated above. In the event that Contractor or Subcontractor fails to comply with the ten-Day period, he or she shall, as a penalty to Owner on whose behalf the contract is made or awarded, forfeit one hundred dollars (\$100.00) for each calendar Day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. Contractor is not subject to a penalty

assessment pursuant to this subparagraph due to the failure of a Subcontractor to comply with this subparagraph.

- 3. Contractor shall also deliver certified payrolls to Owner with each Application for Payment as described in Section 01 2900 (Payment Procedures).
- 4. Contractor shall comply with Project Labor Agreement for the Project and all requirements of Public Contract Code 20146.

15.08. Environmental Controls

A. Contractor shall comply with all rules, regulations, ordinances, and statutes that apply to any work performed under the Contract Documents including, without limitation, any toxic, water and soil pollution controls and air pollution controls specified in Government Code section 11017. Contractor shall be responsible for insuring that Contractor's employees, Subcontractors and the public are protected from exposure to airborne hazards or contaminated water, soil or other toxic materials used during or generated by activities on the Site or associated with the Project.

15.09. Shoring Safety Plan

- A. At least five (5) Days in advance of excavating any trench five (5) feet or more in depth, Contractor shall submit to Owner a detailed plan showing the shoring, bracing and sloping design and other provisions to be made for worker protection from the hazard of caving ground during the excavation, as required by Labor Code section 6705. A civil or structural engineer registered in California shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.
- B. During the course of Work, Contractor shall be responsible for determining where sloping, shoring, and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. Owner's acceptance of any drawings showing the shoring or bracing design or work schedule shall not relieve Contractor of its responsibilities under this subparagraph.
- C. Cal/OSHA Permit. Contractor shall comply with Labor Code section 6500 and shall obtain, as applicable, a permit as required by Cal/OSHA for each of the following:
 - 1. Construction of trenches or excavations that are five (5) feet or more in depth and into which a person is required to descend.
 - 2. Construction or demolition of any building, structure, or scaffolding for falsework more than three (3) stories high, or the equivalent height (36 feet).
 - 3. Erection or dismantling of vertical shoring systems more than three (3) stories high, or the equivalent height (36 feet).
 - 4. The underground use of diesel engines in basements, excavations or tunnels.

END OF DOCUMENT 00 7200

DOCUMENT 00 7301

SUPPLEMENTARY GENERAL CONDITIONS

ARTICLE 1 – SUMMARY

1.01. This Document 00 7301 includes requirements that supplement the paragraphs of Document 00 7200 (General Conditions) and Division 1 General Requirements.

ARTICLE 2 – CROSS-REFERENCES

2.01. Notwithstanding any other provision in the Contract Documents, any reference to any General Requirements Section, or portion thereof, shall mean and refer to the Contract Document or applicable portion thereof which addresses the topic at issue.

ARTICLE 3 – NOT USED

ARTICLE 4 – SUBLETTING AND SUBCONTRACTING

4.01 When taking bids for the construction work of the Project, in the specifications prepared for the work or in the general conditions under bids will be received for the doing of the work, bidders shall be required to set forth the information required in Public Contract Code § 4104.

ARTICLE 5 – IMPLEMENTATION OF COUNTY OF SAN MATEO WASTE MANAGEMENT PLAN

5.01 Please refer to the San Mateo County Office of Sustainability's Construction and Waste webpage (at http://www.smcsustainability.org/waste-reduction/construction-demolition/) for detailed requirements of the County's Waste Management Plan.

ARTICLE 6 – IMPLEMENTATION OF HAZARDOUS MATERIAL REMEDIATION

6.01 GENERAL CONTRACTOR shall provide hazardous material abatement and detailed Work Plans for the demolition work in accordance with Hazardous Material Abatement Specifications as provided by the Owner. Contractors shall carefully review Part 1 through Part 3 as provided below and incorporate the requested scope of work in their proposals.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including General and Supplementary Conditions and other Division1 Specification Sections, apply to this Section.
- B. Drawings and specifications, including but not limited to architectural and structural for the County of San Mateo Lathrop House Relocation Project can be found in Exhibit 1, which precedes Division 33, at the end of this Document.
- C. Report Of Limited Asbestos-Containing Materials And Lead-Based Paint Surveys Lathrop House Relocation Project 627 Hamilton Street Redwood City, California Kleinfelder Project

#20181527.001A dated August 30, 2017. The Document can be downloaded by using the following link: (REPORT + LETTER)

- D. Secretary of the Interior Standards for Rehabilitation (Architectural and subconsultant drawings can be found in Exhibit 1, which precedes Division 33, at the end of this Document.)
- E. Detailed requirements for all hazardous abatement related work as defined below.

1.2 SUMMARY OF HAZARDOUS ABATEMENT WORK REQUIRED FOR THE PROJECT

- A. This Section includes the following:
 - 1. A general description of the hazardous materials impacted work associated with this project and including information regarding known and assumed (presumed) existing hazardous materials likely to be impacted by this project.
 - 2. Requirements and procedures related to asbestos abatement and asbestos impacted demolition and construction work.
 - 3. Requirements and procedures related to lead-impacted selected demolition and leadrelated construction work (including cutting, patching, repair. and surface preparation for painting).
- B. Existing Hazardous Materials Conditions. The Contractor shall take into account the known and presumed existing asbestos, lead-containing materials, and other hazardous materials known or assumed present based on the existing referenced survey report in Related Documents. Where the Contractor's work is likely to disturb any identified known, assumed, or suspected hazardous materials, all of the associated costs of remediation, worker protection, clean up and disposal are to be included in the bid price submitted by the Contractor. Hazardous Materials known or assumed to be present and likely impacted by this project include but may not be limited to the following:
 - 1. Asbestos-Containing Materials.
 - a. Vinyl Floor Tiles, 9"x9", tan (5% asbestos) with black mastic (3% asbestos) located in the Pantry (Kitchen Room 10) and Water Heater Closet (in Storage Room 9).

Note: Suspect ACM sampled with results that reported no asbestos detected (ND) in project areas included: drywall with joint compound and paint; grey plaster/paint; white plaster/paint; off white plaster/paint; and window putty/paint. Refer to survey report for more details and sample locations.

2. Lead-Based Paints (LBP) – LBP is LCP with lead content equal to or greater than 5000 ppm lead or 1.0 mg/cm² lead. LBP was detected in paint on grey exterior wood walls; white exterior doors, door trims & porch railings; white doors and door trims in Pantry (Room 10); Clear varnished interior doors in kitchen, dining room, side hall, south bathroom, sitting room, parlor, 2nd floor landing, SW bedroom, NW bedroom, dressing room, gift shop, closet, gift shop office, and gift shop office closet; clear varnished wood walls and door trims in dining room, side hall, south bathroom, stair hall, sitting room, parlor, 2nd floor landing, SW bedroom, gift shop office, and gift shop office closet; clear varnished wood walls and door trims in dining room, side hall, south bathroom, stair hall, sitting room, parlor, 2nd floor landing, SW bedroom, NW bedroom, dressing room, gift shop office, and gift shop office closet; white painted wood walls in south bathroom and SW bedroom; clear varnished wood floor in side hall; clear varnished wood baseboards throughout building; clear varnished wood window trim in NW bedroom, dressing room, gift shop, and gift shop office:

and clear varnished fireplace mantel in the sitting room. The reported LBP test results ranged from 1.15 mg/cm² to 16.41 mg/cm².

- 3. **Lead-Containing Paints (LCP)** with less than 5000 ppm lead or 1.0 mg/cm² lead included paint on the following components: White exterior wood window trims; grey metal foundation skirting, black paint on exterior wood windows, white interior door trim in NE bedroom, yellow wood walls in kitchen, yellow painted drywall walls in side hall, tan & green painted drywall walls in the dining room. Detected XRF test results ranged from 0.11 mg/cm² to 0.96 mg/cm². See below for Assumed LCP.
- 4. **Assumed LBP** All untested paints shall be considered lead-based paint (LBP) unless proven otherwise due to pre-1978 construction.
- 5. Assumed LCP All paints with no detectable lead (<0.01 mg/cm²) by portable XRF lead analyzer testing must still be assumed to contain some detectable lead for Cal/OSHA compliance as laboratory analysis of paint chip samples is the only acceptable method to confirm no detectable lead is present.
- 6. Existing Known and Assumed LBP & LCP Paint Conditions The referenced Kleinfelder asbestos and lead survey report indicates that virtually all inspected paints and coatings were in "intact" condition. Only paint reported in fair condition was the exterior grey wood wall paint. Conditions change in time, so the Contractor is advised to review actual paint conditions prior to submitting a bid.

C. Summary of Hazardous Materials-Related Work

- 1. The work of this project involves removing some Category I Non-friable ACM floor tiles and associated black ACM flooring mastics from the pantry and heater closet areas. It also involves disturbing LBP and LCP while performing selective demolition, patch and repair work, and surface preparation for painting. Removal and disturbance of existing LBP/LCP coatings is only intended to the extent necessary to safely complete the work of this project in accordance with contract requirements and must be conducted without contaminating the building or grounds.
- 2. The Contractor shall review all project plans for selective demolition (e.g. exterior stairs), cutting & patching, preparation of existing painted/coated surfaces for re-painting/coating, any other related construction work that may disturb known and assumed existing lead-containing paints, coating or materials at this project site based on the information and required assumptions as stated herein.
- 3. This project will require Contractor personnel qualified to conduct OSHA Class II asbestosrelated work. The project also requires disturbance of lead-containing paint coatings. Review the known and assumed ACM and LBP/LCP as identified herein; review the referenced asbestos and lead survey report along with the project drawings in detail; and visually review existing site conditions to verify the location and extent of hazardous materials-impacted work and include the cost of that work in the project bid price.
- 4. All hazardous materials disturbance and removal work shall be undertaken utilizing the proper asbestos and lead work practices, protective measures, controls, waste stream profiling and testing, and waste disposal of properly characterized removed materials as required to support this project.
 - a. Removed friable asbestos (RACM) wastes, including HEPA vacuum bags, are to be disposed of as hazardous asbestos waste. This includes Category I Non-friable ACM (such as mastic) if made friable by the removal methods.
 - b. Removed Category I Non-friable ACM shall be disposed of as a non-hazardous asbestos waste.

- c. Removed dust, debris, and cleaning materials from selective lead-related demolition, cut and patch operations, surface preparation, and other operations shall be presumed hazardous and tested for lead hazardous characteristics prior to disposal.
- d. Demolished components with intact paint, not indicated to be salvaged, may be disposed of as construction waste or recycled as appropriate without further testing.
- 5. The Contractor's work scope includes all required lead-related protective measures for Cal/OSHA and Cal/EPA compliance associated with surface preparation, selective demolition, cutting/patching, and other paint/coating finish disturbing activities of this project.
- 6. Conduct selective demolition, cutting, drilling, cutting/patching, and surface preparation of painted components in compliance with Cal/OSHA worker protection rules and the containment, clean up, and waste handling and disposal requirement of this section.
- 7. Clean up all surfaces affected by selective demolition, cutting/patching, surface preparation and other construction activities so as to leave each work area with asbestos and lead levels below all recognized hazard thresholds at the end of each days work shift and prior to re-occupation and use of the area by the facility.
 - a. In areas where asbestos is required to be disturbed, disturbance shall be contained and the area shall be left free of visible dust and debris and airborne levels shall be below specified clearance levels outside containment areas and after removal is complete, the Work Area shall be cleared in accordance with this section.
 - b. In all areas lead containing painted or coated surfaces are to be disturbed, the disturbance shall be contained and the areas shall be left free if visible dust and debris and all residual lead levels shall be below lead dust wipe hazard levels.
- 8. The Contractor shall refer to and coordinate all hazardous materials related work including actual extent of asbestos and lead-containing paint removal or disturbance required to safely complete the project work with the civil, architectural, structural, and plumbing drawings.
- 9. The Contractor's hazardous materials scope of work includes but is not limited to the following tasks:
 - a. Removal Category I Non-friable ACM floor tiles, 9"x9", tan and associated ACM black mastic from the pantry and heater closet areas. Approximately 180 square feet are included.
 - b. Contain and collect all resulting LBP & LCP paint chips, dust and debris resulting from selective demolition, cutting and patching, surface preparation and other paint disturbing operations of this relocation project. Surface preparation must conform to General Note 38 of Sheet A-0.01 which requires cleaning all painted surfaces throughout, removing loose paint at locations of bonding failure, and roughing of the intact bonded painted surfaces as required for adhesion of paint. Review all referenced survey information, all contract drawings and specifications, and field verify existing locations, conditions and extent of painted surfaces to be treated prior to submitting a bid.
- 10. The Owner will retain the services of a qualified industrial hygiene consultant certified for asbestos and lead consulting in the State of California, for the purpose of monitoring the day to day operations of the Contractor on an ongoing or as needed basis to ensure each work area is ready for occupation or unrestricted access by construction personnel. This consultant shall be referred to as the Owner's Observation Service and shall have authority to review the Contractors pre-start, progress, and close out submittals; inspect

containments, observe Contractor's procedural compliance, and review Work Areas for completion and clearance with regard to asbestos and, where appropriate, lead contamination.

11. The Contractor is obligated to provide notification to the Owner's Observation Service at least 48 hours in advance of starting site work that will disturb asbestos-containing materials to allow for startup inspection and 48 hours prior to any final clearance inspection and testing. Any delay caused by the failure to give proper notification to the Owner's Observation Service shall be at no cost to the Owner.

1.3 REFERENCES:

- A. General: Codes, regulations, and references to hazardous materials abatement work include, but are not limited to the most current versions of the following:
 - 1. California Code of Regulations (CCR):

Title 8; Article 2.5	Registration Asbestos-Related Work
Title 8, Section 1529	Construction Safety Orders, Asbestos Regulations
Title 8, Section 1531	Construction Safety Orders, Respiratory Protection
Title 8, Section 1532.1	Construction Safety Orders, Lead in Construction
Title 17, Div. 1, Ch. 8	Accreditation, Certification, and Work Practices for Lead-
	Based Paint and Lead Hazards
Title 22, Div. 4.5	Environmental Health Standards for the Management of
	Hazardous Waste

- 2. Code of Federal Regulations (CFR)
 - a. 40 CFR Part 61 USEPA NESHAPS Rule
 - b. 40 CFR Part 763 USEPA AHERA Asbestos-Containing Materials In School; Final Rule and Notice
- 3. Regional Air Quality Management District or Air Pollution Control District:
 - a. Bay Area Air Quality Management District (BAAQMD), Regulation 11, Rule 2 Asbestos Demolition, Renovation, and Manufacturing.

1.4 DEFINITIONS

- A. Definitions Specific to Work of this Section.
 - 1. Abatement Procedures to control airborne contaminates and prevent other releases from hazardous material-containing building materials. Includes removal, repair, encapsulation, and enclosure of operations involving disturbance of hazardous materials such as, but not limited to, asbestos and lead.
 - 2. Airlock A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area.
 - 3. Air Monitoring The process of measuring the air contaminants such as asbestos or lead for measured volume of air collected over the specific period of time being monitored.
 - 4. Amended Water A water to which a surfactant has been added.
 - 5. Asbestos The term asbestos includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

- 6. Asbestos Containing Construction Material (ACCM) Any construction material with an asbestos content of 0.1 percent or greater by weight.
- 7. Asbestos Containing Material (ACM) Any material which contains over one percent asbestos as determined by current EPA bulk sample analysis method.
- 8. Asbestos Fibers This expression refers to asbestos fibers longer than five micrometers with an aspect ratio of 3:1 or larger under phase contrast microscopy (PCM) analytical procedures.
- 9. Authorized Visitor Any Owner Representative, Consultant or Agent and any representative of a regulatory of other agency having jurisdiction over the project.
- 10. Certified Supervisor An individual who is capable of identifying asbestos or lead hazards in the workplace and who has sufficient experience and authority to take prompt corrective measures to eliminate them. In addition, the Certified Supervisor is responsible for conducting and approving all required inspections as specified. Also known as the "Competent Person."
- 11. Class I Asbestos Removal Class I Asbestos work means activities involving the removal of thermal system insulation (TSI) and surfacing ACM.
- 12. Class II Asbestos Work Class II Asbestos Work means activities associated with removal of any asbestos containing material that is not a Class I surfacing material or thermal system insulation. This includes but is not limited to, removal of roofing materials including sealants, and caulking materials.
- 13. Class III Asbestos Work Small scale removal work incidental to support removal or installation of equipment and devices where not intentional asbestos abatement work or removal is involved and the quantity of asbestos waste can be contained in one standard waste bag or glove bag with dimension no greater than 60"by60" (60 inches square)
- 14. Class IV Asbestos Work- For this project, clean-up of dust or debris caused by minor disturbance of ACM finishes caused by drilling or similar operations.
- 15. Clean Room An uncontaminated area or room that is a part of the Worker decontamination enclosure with provisions for storage of Workers' street clothes and protective equipment.
- 16. Critical Barrier A unit of temporary construction of air-tight and impermeable barrier which provides the only separation between a contained asbestos Work Area and an adjacent, potentially occupied area.
- 17. Decontamination Enclosure System A series of connected rooms, with air-tight doorways between any two adjacent rooms, for the decontamination of Workers and of materials and equipment. A decontamination enclosure system always contains at least one airlock.
- Differential Pressure Equipment A portable local exhaust system equipped with HEPA filtration and capable of maintaining a constant, low velocity air flow into contaminated area from adjacent uncontaminated areas. Also referred to as HEPA Exhaust Units or Negative Pressure Units (NPUs).
- 19. Disturbance Any construction activity or process involves cutting, abrading, or otherwise creates asbestos or lead contaminated dust (settled or airborne) or debris.
- 20. Dispersed Oil Particulate (DOP) testing In-place testing by qualified third parties of HEPA filtered systems including vacuums and negative air exhaust assemblies to ensure the systems as a whole meet HEPA filtration standards. Testing shall be conducted in accordance with the latest applicable standard or guideline for the industry.

- 21. Encapsulant (sealant) A liquid material which can be applied to asbestos-containing material or surface and which controls the possible release of asbestos fiber from the material or surface by creating a membrane over the surface (bridging encapsulant), or by penetrating into the material and binding its components together (penetrating encapsulant), or by locking down invisible fibers (lockdown encapsulant).
- 22. Hazardous Materials Hazardous materials include, but are not limited to: asbestos containing materials, lead and lead-based paint, mercury, PCB, coolant gases, universal wastes, solvents, fuels and other chemical products or wastes.
- 23. HEPA Filter A high-efficiency particulate absolute (HEPA) filter capable of trapping and retaining 99.97 percent of particles greater than 0.3 micrometers in mass median aerodynamic equivalent diameter.
- 24. HEPA Vacuum Equipment Vacuuming equipment with a HEPA (UL 586 labeled) filter system.
- 25. Lead-Based Paint (LBP) Lead-Containing Paint (LCP) that is at least 0.5% lead by weight or 1.0 milligrams of lead per square centimeter of surface area (as measured by XRF lead analyzer). Note: any untested paints or coatings must be presumed to be LBP for structures constructed prior to1978.
- 26. Lead-Containing Paint (LCP) any paint with any detectable lead content based on proper sampling and laboratory analysis for lead content.
- 27. Lead Hazardous Waste Lead-based paint waste or other debris that has been classified as hazardous due to the characteristic of toxicity, as determined by testing in accordance with the California Code of Regulations, Title 22, Division 4.5. A hazardous waste is any substance(s) listed in Article 11 Section 66699 at concentrations greater than its listed Soluble Threshold Limit Concentration (STLC) or Total Threshold Limit Concentration (TTLC). The STLC for lead is 5.0 parts per million (ppm) and the TTLC for lead is 1000 ppm lead. If either of these values are exceeded, the lead related waste will need to be further characterized by the Toxicity Characteristic Leaching Procedure (TCLP) in accordance with 40 CFR 261 and possibly other tests prior to disposal as a hazardous waste. Waste testing for proper disposal is the responsibility of the Contractor.
- 28. Negative Pressure Enclosure (NPE) An enclosed or contained area of any configuration constructed of polyethylene sheeting with a minimum of four (4) air changes per hour and a minimum negative pressure of -0.02 inches of water as compared to surrounding areas outside the enclosure. NPE must be maintained until final air clearance sampling.
- 29. Non-Friable Asbestos Material Material that contains asbestos in which the fibers have been locked in by a bonding agent, coating binder, or other material so that the asbestos is well bound and will not release fibers in excess of the asbestos control limit during any appropriate use, handling, demolition, storage, transportation, processing, or disposal.
- Non-hazardous Asbestos Waste Wastes which are non-friable and/or are below one percent asbestos by weight as determined by objective testing. These wastes require OSHA Asbestos Hazard warning labels and disposal at landfills that accept such asbestos wastes.
- 31. Observation Service Environmental Consultant hired to conduct compliance observation and air monitoring services on behalf of the Owner. Sometimes referred to as the Owner's Observation Service.
- 32. Owner County of San Mateo.
- 33. Owner's Representative Representative(s) Owner has assigned to manage, oversee, and inspect this project. This may include an architectural and/or construction management

consultant hired by Owner to oversee the project and/or the assigned Construction Inspector.

- 34. Removal Procedures necessary to remove hazardous materials such as, but not limited to, asbestos or lead from designated areas and to dispose of these materials at an acceptable properly permitted waste disposal site. Included removal of hazardous material dust and debris from any disturbance operation.
- 35. Surfactant A chemical wetting agent added to water to improve penetration.
- 36. Visually Clean Free of visible dust, paint chips, dirt, debris, or films removable by vacuuming or wet cleaning methods specified. For outside soil or ground cover areas, visually clean shall mean free of construction or paint debris, chips or dust distinguishable from the initial soil or ground conditions.
- 37. Waste Generator Label Waste Generator label shall include the Generator's Name, ID Number, Address, and Waste Manifest Number.
- 38. Wet Cleaning The process of eliminating asbestos or lead contamination from building surfaces and objects by using cloths, mops, or other cleaning tools that have been dampened with water or water/detergent solution, and by afterwards disposing of these cleaning tools and materials as contaminated waste.
- 39. Work Area Designated rooms, spaces, or areas of the project in which hazardous material removal actions are to be undertaken or which may become contaminated as a result of such removal actions during the process and prior to final clean-up and decontamination. A contained Work Area is a Work Area that has been sealed and equipped with a Decontamination Enclosure System. Also referred to as a "Regulated Area."
- 40. Worker Decontamination Enclosure System (Worker Decon) That portion of a Decontamination Enclosure System designed for controlled passage of workers, and other personnel and authorized visitors, typically consisting of a clean room, a shower room, and an equipment room.

1.5 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.6 SUBMITTALS

- A. Requirements are as set forth in Contract (e.g. Document 01 3300 Submittals) for items required to be submitted under this section.
- B. Pre-Start Submittals:
 - 1. Submit the following:
 - a. Licensing and Registration for Contractor or Subcontractor responsible for removal of hazardous materials. Submit copies of current and valid:
 - 1) The Contractor's license and Contractor's asbestos certificate issued by the California State Contractor's Licensing Board (CSLB);

- 2) Registration for Asbestos-Related Work from the Division of Occupational Safety and Health in accordance with CCR, Title 8, Article 2.5 of the California Administrative Code for any removal or disturbance involving greater than 100 square feet of ACM.
- b. Personnel Qualifications: Personnel documents required per this section shall be organized by individual employee and include the following information:
 - 1) Personnel Training (Asbestos & Lead):
 - Competent Person/Supervisor (Asbestos-Class I & II Removal Work): Submit training certificates for Contractor/Supervisor Training by Cal/OSHA accredited provider.
 - b) Workers (Class I & II Removal Work): Submit training certificates for Asbestos Workers Training by Cal/OSHA accredited provider.
 - c) Competent Person/Supervisor to conduct lead-related demolition and construction work such as surface preparation for new construction.
 - d) Workers performing lead related demolition and surface preparation involving disturbance of lead-containing surface coatings and materials.
 - 2) Medical Examination: Submit proof that personnel who will be performing asbestos-related and lead-related construction work have had medical examinations within the last 12 months in conformance with Title 8 CCR; Section 1529 asbestos & 1532.1 lead, and furnish the results of each exam in the form of the physician's written opinion or approval with regard to worker fitness to wear a respirator and perform asbestos work as applicable;
 - Respirator Fit Tests: Submit proof that personnel who will be entering asbestos or lead Work Areas have had a qualitative respiratory fit test performed within 12 months from the scheduled completion date of the project.
- 2. Notifications, Communications, and Postings.
 - a. Submit copies of notifications to appropriate government agencies where required, including the following:

Division of Occupational Safety and Health, Cal/OSHA District Office in Bakersfield. Cal/OSHA notifications shall be in accordance with Title 8 CCR Section 341.9 for asbestos and Section 1532.1 for lead.

Demolition/Renovation Abatement Notifications shall be in accordance with the NESHAP, 40 CFR, Subpart M and AQMD/APCD regulation. Submit to the BAAQMD in accordance with agency requirements.

- 3. Respiratory Protection Plan: Submit a written standard operating procedure governing selection, fit-testing, and use of respirators for asbestos and lead exposure protection.
- 4. Detailed Work Plan: Submit a detailed work plan proposed for use in complying with the requirements of these specifications. The detailed work plan shall include, at a minimum, the following information:
 - a. Procedures: Job-specific procedures proposed for completing the scope of work outlined herein including: means of controlling dust and exposure for any Class I or Class II asbestos removal and clean-up work.
- 5. Plan for personnel air monitoring required by regulation to be completed by the Contractor for Worker protection. The Plan shall include, but not be limited to the following:

- a. Personnel Air Monitoring conducted in strict accordance with 8 CCR 1529 and 1532.1. Include calibration data for the secondary standard to be used for air sampling pump calibration on-site. This data must be within six (6) months of the projected completion of this project;
- b. Name, address, and accreditation and/or certification of laboratory selected by the contractor to analyze air samples.
- 6. Product Data: Manufacturers product data for all items required for complete and proper execution of the work, this includes product data for all items listed under Part 2 Products. Product data shall include manufacturing product data, specifications, samples and application instructions, material safety data sheet (MSDS), and other pertinent information as necessary.
- 7. Waste Disposal Sites: Submit Name Location, Class, and EPA # for each waste disposal site to be used for any asbestos or lead wastes for this project.
- C. Daily Submittals: Within 24 hours following the completion of the first Work Shift for each different operation, the Contractor shall submit the following information to the Observation Service by fax or e-mail:
 - 1. OSHA sample results for asbestos including Eight (8) hour Time Weighted Average (TWA) sampling and results for asbestos excursion limit samples. Sample results must indicate the person sampled, description of work activity, start and stop times, liters per minute, total volume and laboratory result expressed as an eight-hour TWA or excursion limit sample.
 - 2. Copy of waste profile and waste characteristic testing lab results and copy of any hazardous waste manifests for wastes shipped from the site. Note: manifests must be signed by an Owner's Representative.
- D. Close-Out Submittals:
 - 1. Within 10 days of completion of all hazardous material removal work, submit a copy of all outstanding Daily Submittals and one copy of each hazardous waste manifest and each non-hazardous asbestos waste manifest to the Observation Service.
 - 2. Work Area entry/exit logs completed for each asbestos Work Area and each Work Shift.

1.7 POSTINGS

- A. Before the commencement of any asbestos related work at the site, Cal/OSHA warning signs in and around the Work Area to comply with Cal/OSHA regulations.
- B. Copies of the Contractor's SCLB license, Cal/OSHA registration certificate, temporary job-site notifications, pre-start LBP notifications to Cal/OSHA, local agency notifications, emergency exit diagram, emergency phone numbers, Cal/OSHA poster on worker's rights, and worker's compensation poster shall be posted proximate to the entrance to each Work Area.
- C. The Contractor shall have at least one copy of the Contract Documents including project plans and specifications, and a current copy of 8 CCR 1529 & 1532.1.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Submit manufacturer's product data for all items to be used including the items listed below.
- B. All materials to be used on the project shall be new in original packages, containers, or bundles bearing the name of the manufacturer and the brand name. Used materials will not be permitted.

2.2 PROTECTIVE COVERING (PLASTIC SHEETING)

A. For standard containment and critical barrier usage: Fire Retardant Polyethylene sheets 6 mil and 4 mil in sizes to minimize frequency of joints, approved and listed by the State Fire Marshall per Section 13121 and/or 13144.1 of the California Health and Safety Code.

2.3 TAPE, ADHESIVES, SEALANTS

- A. Duct tape two inches or wider, or equivalent, capable of sealing joints of adjacent sheets of plastic sheets and for attachment of plastic sheets to finished or unfinished surfaces of dissimilar materials and capable of adhering under both dry and wet conditions.
- B. Spray adhesives for sealing polyethylene to polyethylene shall contain no methylene chloride compounds.

2.4 PROTECIVE PACKAGING

- A. Appropriately labeled 6 mil sealable polyethylene bags as a minimum.
- B. Appropriately labeled, impermeable drum containers with sealable lids.
- C. Bilingual labels (English and Spanish) on waste packages, contaminated material packages and other containers shall be in accordance with EPA or OSHA standards.

2.5 WARNING SIGNS AND LABELS

- A. All warning signs and labels must meet all applicable regulatory requirements for wording, size of lettering, and use of language, pictographs, and graphics to effectively convey the warning. Additional requirements apply for hazardous waste containers and shipments for transportation to disposal sites. Only asbestos warning signs are anticipated to be required for this project.
- B. Lead Warning signs for Regulated Area must contain the following wording:

Warning Lead Work Area Poison No smoking or Eating

C. Asbestos Warning signs for Regulated Areas must contain the following wording:

DANGER ASBESTOS

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MAY CAUSE CANCER AND CAUSES DAMAGE TO LUNGS AUTHORIZED PERSONNEL ONLY WEAR RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING IN THIS AREA

D. Labels for packaging and containers containing ACM waste must contain the following wording:

DANGER CONTAINS ASBESTOS FIBERS MAY CAUSE CANCER CAUSES DAMAGE TO LUNGS DO NOT BREATHE DUST AVOID CREATING DUST

2.6 SURFACTANT

A. Surfactant, or wetting agent, for amending water will be 50 percent polyethylene ether and 50 percent polyethylene ester, or equivalent, at a concentration of one ounce per five gallons of water or approved equal surfactant.

2.7 PERSONAL PROTECIVE EQUIPMENT

- A. Personal Protective Equipment shall comply with the requirements of 29 CFR 1910, Subpart 1 and 8CCR 1514, 1515, 1516, and 1517.
- B. Work clothes shall consist of impervious disposable, full-body coveralls, head covers, boots, rubber gloves, and work boots (or sneakers). Sleeves at wrists and cuffs at ankles shall be secure. Disposable coveralls shall be constructed of DuPont Tyvek, Kimberly Clark KleenGuard or equivalent impervious fabric. No see though garments allowed.
- C. Eye protection and hard hats shall be available and worn when required by applicable safety regulations.
- D. Provide Authorized Visitors with suitable protection clothing, headgear, eye protection, and footwear whenever they enter the Work Area.

2.8 **RESPIRATORS**

- A. Provide all workers, foremen, superintendents, authorized visitors, and inspectors with personally-issued and marked, clean and sanitized respiratory equipment approved by NIOSH. When respirators with disposable filters are employed, provide sufficient filters for replacement as recommended by manufacturers or this specification. Selection of respirators shall be made according to the guidance of 8 CCR 1529 and 1532.1.
- B. The minimum respiratory protection required for this project is a half mask respirator as long as the airborne levels do not exceed one half of the applicable PEL established by regulation.

PART 3 - EXECUTION

3.1 **PROJECT PROCEDURES**

- A. Prior to the start of on-site work, the Contractor shall hold an on-site start-up safety meeting for all of contractor and facility employees that addresses at least the following issues specific for the project:
 - 1. Safety and health hazards;
 - 2. Procedures and work practices;
 - 3. Respiratory protection and instruction;
 - 4. Special conditions and/or work requirements.
- B. Worker Protection Procedures (Asbestos & Lead removal)
- C. Provide Authorized Visitors with suitable protective clothing, respirators, headgear, eye protection, and footwear whenever they are required to enter the Work Area. All provided equipment shall be new or in good working condition.

3.2 GENERAL HAZARDOUS MATERIALS WORK PREPARATION

- A. General Requirements
 - 1. Provide temporary power and lighting and ensure safe installation of temporary power source and equipment per applicable electrical code requirements and provide ground fault interrupter circuits with power source for electrical equipment to be used.
 - 2. Provide temporary supply of water adequate for wet removal, cleaning, decontamination and operation of employee shower system (where required).
 - 3. Isolate any heating, cooling, ventilation air systems that enter or penetrate the building within or near the Work Area to prevent contamination of other areas of the structure.
 - 4. Cordon off all accesses to each interior and exterior Work Area barrier tape and warning signage.
 - 5. Seal all remaining openings to interior Work Areas, including but not limited to ducts, grills, diffusers, and any other penetrations of the Work Area, with two layers of 6mil plastic sheeting sealed with tape.
 - 6. For exterior uncontained Work Areas, seal all opening to the interior with critical barriers consisting of two layers of 6 mil plastic sheeting sealed with tape. Back critical barrier with sheet metal or plywood as needed for support.
 - 7. In addition, for asbestos removal work, isolate non-emergency egress doorways, and access ways with temporary barriers and seal with plastic sheeting.
 - 8. Pre-clean work area using wet cleaning and/or HEPA vacuuming to removal all visible dust and debris prior to starting removal or major disturbance work.

3.3 PREPARATION FOR CLASS II ASBESTOS WORK

- A. Class II Asbestos Removal Work:
 - 1. In addition to general preparation requirements (above):

- a. Install negative pressure containment or mini-containments using HEPA filtered exhaust systems ducted to the exterior. Equipment shall have been DOP tested within last 30 days and brought onsite clean and in good working order.
- b. For full containments: Establish a negative pressure differential of at least -0.02 inches of water with respect to the exterior of the containment and ensure at least 4 air changes per hour are achieved. Monitor negative pressure continuously using equipment with a strip chart recorder.
- c. Protect all surfaces and objects to remain with two layers of six mil plastic sheeting sealed with duct tape.
- d. Install a contiguous three stage decontamination unit, except for glove bag removals or mini-containments. Mini-containments shall have at least a two stage decontamination unit.
- e. All containments systems shall be inspected and smoke tested by the Contractor's Competent Person and then if found acceptable it must be inspected and approved by the Owner's Observation Service.

3.4 PREPARATION FOR LEAD-PAINT DISTURBANCE WORK

- A. In addition to the general preparation requirements (above):
 - 1. Install an impervious drop sheet consisting of 6 mil plastic sheeting (or better) that extends at least five feet beyond area of LCP or LBP disturbance to contain and collect lead contaminated paint chips, dust, and debris. Where wet methods are used, the containment system must contain water released by the process.
 - 2. Clean and decontaminate Work Area prior to end of shift and place all waste in tightly sealed labeled waste containers.
 - 3. Remove all waste containers and place in secure storage pending transport for disposal.

3.5 ASBESTOS REMOVAL AND DISTURBANCE PROCEDURES

- A. Gross Removal and Clean-up of ACM floor tile.
 - 1. Use full negative pressure containment procedures with HEPA exhaust to the building exterior.
 - 2. All HEPA filtered exhaust and vacuum systems must be DOP tested and certified on-site or within past 30 days by a qualified independent third party hired by the Contractor prior to use onsite.
 - 3. Wet ACM to be removed with amended water and continue wetting during removal process.
 - 4. Remove floor tiles intact to extent possible using hand tool and non-mechanical methods.
 - 5. Place removed materials promptly in labeled waste disposal bags or containers as it is removed. Seal and double bag using labeled bag or containers prior to removing asbestos waste from the containment.
 - 6. Place removed, containerized and labels asbestos waste in a secure lockable storage container or bin pending transportation for disposal.
- B. Removal and Clean-up of ACM mastics:

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- 1. Remove as intact Category I Non-friable ACM using manual scraping methods or if not practically feasible, remove with solvent and mechanical means within a full negative pressure containment;
- 2. Use wet methods during cutting and removal operations as feasible;
- 3. Place removed ACM waste in labeled bags or closed containers;
- 4. Remove ACM waste from roof as soon as possible but no later than the end of the work shift.
- 5. Place removed asbestos contaminated materials promptly in secure labeled asbestos waste bin pending transportation for disposal.

3.6 FINAL ASBESTOS DECONTAMINATION

- A. Previous Work: During completion of the interior asbestos removal and visible debris clean up work specified, the first cleaning of all exposed equipment and building surfaces should be completed.
- B. Clean any remaining materials and debris exposed by the removal of protective plastic sheeting from surfaces and objects to remain. Clean all exposed surfaces in the containment area by wet wiping and HEPA vacuuming.
- C. At the completion of this cleaning phase, the Work Area shall be free of all unnecessary equipment/materials and waste containers.
- D. Leave all isolation barriers, vents, grilles, diffusers, etc., shall remain in place until a final inspection and clearance test results are conducted by the Observation Service are found to be acceptable.
- E. The Contractor's Competent Person/Supervisor shall perform a complete visual inspection of the Work Area under adequate lighting to ensure that the Work Area is free of visible asbestos material, debris, and dust.
- F. Notify the Owner's Observation Service at least 24 hours in advance of the day and time when the Work Area will be ready for Final Inspection and Clearance for multiday containment projects. For containment work to be completed the same day started, notify the Observation Service at least an hour in advance of completion.
- G. The Contractor's Competent Person/Supervisor shall ensure that additional cleaning is completed if the area is not found to be acceptably clean. The Contractor shall submit a completed and signed Final Visual Certification Form along with a request for a final visual inspection by the Observation Service once the Competent Person/Supervisor concludes that the area is acceptable for final visual inspection.
- H. After written notification to proceed from the Observation Service, encapsulate all surfaces within the interior Work Area.
- I. Upon lock down encapsulation of the Work Area surfaces and sufficient drying time, the Observation service conduct clearance air testing for areas where ACM was removed. The Work Area containment shall not be removed until acceptable air clearance results are obtained and the Contractor is notified of such.

J. After written notification from the Observation Service in the form of a fully completed Final Visual Inspection/Clearance Certification Form accepting decontamination of the Work Area as acceptable, proceed with removal of critical barriers.

3.7 LEAD-RELATED DEMOLITION

- A. General. All painted or coated surfaces at this site are known or presumed to contain lead are subject to worker protection and environmental regulations. Refer to related documents identified herein for additional information including components with LBP requiring agency notification.
- B. Conduct selective demolition, surface preparation, and any required cutting and patching operations in a manner that does not result in site contamination above background levels.
- C. Clean up any demolition-related lead wastes including any resulting paint chips, dust, and debris.
- D. The Contractor shall evaluate each demolition debris waste stream and ensure proper disposal of all generated wastes. All waste profiling and testing required by the disposal site is the responsibility of the Contractor.

3.8 LEAD WASTE CLEAN UP AND EVALUATION

- A. Clean up paint chips and debris using wet cleaning methods and HEPA vacuuming. All surfaces shall be free of all visible paint chips, dust and debris. Place all paint chips in a labeled waste bag or container.
- B. Place all contaminated cleaning materials, disposal personal protective equipment (PPE) and contaminated plastic in separate waste bags. The Contactor shall assume all lead-related waste is RCRA hazardous waste and shall conduct required waste testing as necessary for disposal at a permitted waste disposal site.
- C. All waste streams and waste categories listed below shall be considered lead hazardous waste until proven otherwise through testing. All testing of demolition waste wastes is the responsibility of the Contractor. The Contractor shall be responsible for segregating suspect lead hazardous waste based on potential for exhibiting hazardous waste characteristics. Lead-related wastes are to be segregated into the below listed categories at a minimum.
 - 1. Category I: LBP paint chips, vacuum bags, used cleaning materials. These materials are typically hazardous wastes.
 - 2. Category II: Plastic sheeting and tape, disposable clothing, and equipment. These materials should be non-hazardous if properly cleaned and decontaminated. However, these items are to be considered hazardous subject to testing.
- D. Test each waste stream for total lead content for comparison with the California TTLC lead waste criteria. Any waste stream with a TTLC result greater than 50 mg/kg (ppm) shall be tested by the California Wet test for STLC and the RCRA TCLP test. Based on the testing protocols, any waste greater than or equal to five (5) ppm lead using STLC or any waste greater than or equal to 1000 ppm lead using the TTLC test shall be considered a California lead hazardous waste and any waste with a TCLP results equal to or greater than 5 ppm lead shall be considered a RCRA lead hazardous waste.

E. When the TTLC test result is less than 50 ppm lead, no further testing is required for that waste category sampled unless the waste stream or waste generating process changes.

3.9 WASTE PACKAGING & LABELING

- A. All asbestos wastes shall be adequately wetted prior to packaging.
- B. Place asbestos waste in six (6) mil labeled asbestos waste bags or approved equivalent containers.
- C. Goose neck and seal each bag and place in a second clean-labeled bag, drum or impervious container.
- D. Decontaminate waste bags and containers prior to removing from regulated or contained area.
- E. Label all asbestos waste bags or containers with OSHA warning label: "Danger. Contains Asbestos Fibers. May Cause Cancer, Causes Damage to Lungs, Do Not Breathe Dust, Avoid Creating Dust" and other information as required by regulation.
- F. All other hazardous lead, PCB, and universal wastes shall be properly labeled and containerized in leak tight containers.

3.10 WASTE DISPOSAL

- A. Waste Transportation: Submit the method of transport of hazardous asbestos wastes including name, address, EPA ID number, and telephone number of transporter.
- B. Waste Disposal Site(s): Submit for approval the name, class, address, EPA ID number, and telephone number of waste disposal site(s) to be utilized.
- C. Waste Manifest: Submit for approval at the Pre-construction meeting a filled out Waste Manifest form. For Waste Manifest purposes, the Generator is the facility of the subject work.
 - 1. Obtain necessary information including generator EPA number for this purpose from the Owner or Owner's Representative prior to startup of any abatement or demolition.
 - 2. After removal and packaging waste for shipment, provide a copy of the Waste Manifest to the Observation Service for each required shipment.
 - 3. Use the uniform hazardous waste manifest for hazardous wastes including lead and asbestos. Include a properly completed Land Disposal Restriction Notice and Certification form with each manifest submitted for signature by the generator (Owner).
 - 4. Use a non-hazardous waste manifest for disposal of non-friable asbestos wastes.
- D. Each hazardous waste manifest and each non-hazardous asbestos waste manifest shall be prepared for the Owner or Owner's Representative's review and approval prior to shipment.
- E. The sealed hazardous waste containers shall be delivered to the Contractor's pre-designated, approved hazardous waste treatment and waste disposal site for burial in accordance with applicable state and federal regulations. Likewise, non-hazardous asbestos waste shall be delivered under manifest to a permitted asbestos waste disposal site.

- F. Notify the Owner's facility representative 48 hours in advance of the time when contaminated materials are to be removed and transported from the site to allow for manifest review and approval.
- G. The Contractor shall be responsible for safe handling and transportation of all hazardous waste generated by this Contract to the designated Hazardous Waste Site and shall hold the Owner and the Owner's agents and consultants harmless for claims, damages, losses, and expenses against the Owner, including attorney's fees arising out of or resulting from asbestos and hazardous materials spills on the site or en-route to the disposal site.

3.11 AIR MONITORING & CLEARANCE TESTING

- A. Area Air Monitoring.
 - 1. Throughout the asbestos removal or disturbance process, area air monitoring may be conducted by the Observation Service to ensure work is done in conformance with the fiber concentration limits of these specifications. Likewise, lead removal work areas may be visually inspected or monitored during removal.
 - 2. If results of area air monitoring outside the Work Area are in excess of 0.01 f/cc for asbestos regulated work areas or 4.5 micrograms of airborne lead per cubic meter of air for lead demolition areas, the Contractor shall make changes in work procedures to assure compliance with minimum standards. At a minimum, the Contractor shall stop all work and implement additional remedial controls and conduct decontamination as necessary in response to exceeding these limits.
 - 3. Unsatisfactory asbestos results are fiber counts in excess of 0.01 f/cc by PCM Method NIOSH 7400 determined as a TWA outside the Work Area by general air monitoring. All results greater than 0.01 f/cc shall be subject to further laboratory analysis by the TEM method at the Contractor's sole expense.
- B. Clearance Testing
 - 1. Asbestos Removal or Disturbance. When all work including decontamination of a specific asbestos removal work area is complete, the Owner's Observation Service shall conduct clearance testing prior to containment removal and opening the area to un-restricted access. In order to facilitate clearance inspection and testing, the Contractor is obligated to provide at least 48 hours notice to allow scheduling of the Owner's Observation Service.
 - a. Clearance testing shall be conducted and analyzed in accordance with the AHERA standards for Class I or II asbestos removal work and shall include at minimum a set of five PCM samples and results for each sample less than 0.01 fibers per cubic centimeter of air. If TEM samples are requested and paid for by the Contractor, the acceptable clearance results is an average of less than 70 asbestos structures per square millimeter of filter areas.
 - b. Failed clearance results shall results in the Contractor re-cleaning and encapsulating the Work Area and paying for any additional clearance testing costs including consultant labor and analytical costs.
 - 2. Lead Demolition or significant interior LBP disturbance (>2 square feet/work area) of lead-based paint (LBP): After all removal/disturbance work is completed and the work area has been decontaminated by wet cleaning and HEPA vacuuming, the Owner's Observation Service may require or conduct lead wipe testing of surfaces prior to release of the areas for unrestricted use. Lead contamination of floors and other horizontal surfaces shall be less than 40 micrograms of lead per square foot based on lead wipe sampling. Exception:

LBP or LCP painted or varnished floors will be cleared by visual inspection only unless the floors are first re-coated with lead free paint or varnish.

3. Exterior LCP surface preparation: Work Areas shall be free of visible paint chips, dust, debris and sludge from preparation process and exposed soils shall not exceed background levels as indicated by pre-start soil testing. Refer to existing conditions information and reports.

3.12 CLOSE-OUT

A. All submittal and punch list items must be complete and provided to the Observation Service.

END OF SECTION

DOCUMENT 00 7311

INSURANCE AND INDEMNIFICATION

ARTICLE I – INSURANCE REQUIREMENTS

1.01 General – Insurance Requirements

- A. Contractor shall procure and maintain insurance which will protect Contractor, Trade Contractors, Subcontractors, and Owner from claims which may arise from, result from, or have connection to, Contractor's actions or inactions relating to the Project and the Work, whether such actions or inactions be by themselves or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable.
- B. Insurance shall extend coverage for completed operations that extend beyond acceptance of the certification of completion for defects, warranties, and maintenance obligations, if any, for ten (10) years. The insurance shall be for coverages and amounts in accordance with the estimated construction cost. The insurance shall also include coverage for the following areas at the minimum limits specified below:
 - 1. <u>Worker's Compensation:</u> as required by the California Labor Code;
 - 2. <u>Employer's Liability:</u> \$1,000,000 per accident;
 - 3. <u>Commercial General Liability</u>: \$1,000,000 per occurrence and \$2,000,000 aggregate;
 - 4. <u>Completed Ops (10 years):</u> \$1,000,000;
 - 5. <u>Personal/Advertising Injury:</u> \$1,000,000;
 - 6. <u>Damages to Rented Premises</u>: \$250,000;
 - 7. <u>Med pay</u>: \$100,000;
 - 8. <u>Umbrella/Excess Liability</u>: \$1,000,000;
 - 9. <u>Commercial Automobile:</u> \$1,000,000 combined single limit per accident for bodily injury and property damage, primary for any auto, including all owned, non-owned, and hired vehicles;
 - 10. <u>Builder's Risk</u>: Contractor shall procure and maintain in effect a Builders' Risk (course of construction) insurance with the broadest possible coverage for completed value of the Work but include all materials, machinery, equipment, and supplies owned by Contractor or which Contractor has assumed legal liability for, to be used in the fabrication, erection, or construction of the project. No deductible shall exceed \$100,000, per occurrence except for earthquakes, earth movement or flood. Builder's Risk Policies shall contain the following provisions: (a) Owner and Subcontractors of every tier shall be named as an additional insured loss payee; and (b) Coverage shall contain a mutual waiver of subrogation in favor of Contractor, Subcontractors at every tier, and the Owner, its officials, employees, agents, and only to the extent of onsite activity, design or engineering professionals; (c) Owner and Contractor will share equally in payment of all deductibles from a covered event due to act of God events including earthquake, earth movement, and flood.

- 11. Contractor's Pollution Liability Insurance: Contractor's Pollution Liability Insurance on an occurrence basis, with limits of at least \$5,000,000 per occurrence and \$10,000,000 policy term aggregate for bodily injury, property damage, cleanup costs and claim expenses, arising at or emanating from the Project Site arising from all operations performed on behalf of the Contractor. Subcontractors will provide Pollution Liability coverage as required by their specific Subcontract. Such insurance shall provide liability coverage for both sudden and gradual releases arising from the Work. CPL policy shall name Owner, Contractor, and all Subcontractors of all tiers as insureds. Contractor shall be responsible at its own expense for an obligation for each loss payable under this insurance that is attributable to the Contractor's acts, errors, or omissions, or the acts, errors, or omissions of any of its Subcontractors, or any other entity or person for whom Contractor may be responsible. The amount of the obligation shall be based on the amount of the initial Contract Price, as follows: (1) The portion of the obligation applying to the Contractor or Subcontractor shall be the responsibility of the Contractor and shall remain uninsured. Contractor shall promptly pay its charge pertaining to any loss. The Owner, in addition to its other remedies, may back charge Contractor for the obligation and deduct the back-charged amount from Contractor's next progress payment or final payment.
- Professional Liability Insurance: Each licensed professional (Professional) 12. engaged by Contractor to perform portions of the Work shall maintain the following insurance at its sole cost and expense Professional Liability Insurance, insuring against professional errors and omissions arising from Professional's work on the Project, in an amount not less than \$2,000,000 combined single limit for each claim. Any per claim Deductible or SIR in excess \$100,000 shall be subject to Owner's prior written approval in Owner's sole discretion. Should Professional not provide this insurance on an occurrence policy, Professional shall provide insurance covering claims made as a result of performance of Work on this Project with a retroactive date which precedes the date that Work is first performed, and shall maintain such insurance in effect for not less than three years following Final Completion of the Project. If Professional is a design-build Subcontractor (of any tier), or a member of, or an employee, consultant or contractor to, such a designbuild Subcontractor, Professional must maintain at least \$1,000,000 per occurrence or claim, and \$2,000,000 policy aggregate in Professional Liability Insurance, and any Deductible or SIR in excess of \$100,000 shall be subject to Owner's prior written approval in Owner's sole discretion.
- C. If the Contractor maintains higher limits than the minimums shown above, the Owner requires and shall be entitled to coverage for the higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the Owner.

1.02 Deductibles and SIR's

A. Contractor shall state all Deductibles and Self-Insured Retentions (SIR). Deductibles and SIRS shall not be more than Contractor can reasonably bear and losses inside the deductible shall never be charged back to the County. Any per occurrence Deductible or SIR in excess of \$250,000 shall be subject to Owner's prior written approval in Owner's sole discretion.

1.03 Additional Insured Matters

A. Neither Owner, any other additional insured nor any other party to be indemnified by Contractor as required by this Document 00 7311 or elsewhere in the Contract shall be responsible for any insurance deductible, SIR, uninsured retention or uninsured loss of Contractor for which Contractor is responsible under the Contract.

B. Contractor liability policies may not have any restriction on the payment of any deductible, SIR or any other amount described in Paragraph 1.03.A. above. In the event that Contractor is legally or financially unable to make such payment, or for any other reason does not make the payment, Owner may, in its sole discretion and without waiving or excusing Contractor's failure to make any required payment, make any such payment or portion thereof. Owner may deduct and retain such amount from any sums due Contractor under Contract Documents, or collect such amount by any means otherwise permitted by the Contract and applicable law.

1.04 Acceptable Insurers

A. All policies of insurance shall be placed with insurers acceptable to Owner. The insurance company(s) must be duly licensed to do business in the State of California and must have and maintain a current A. M. Best Company rating of A-,VII or better. Required minimum amounts of insurance may be increased should conditions of Work, in opinion of Owner, warrant such increase. Contractor shall increase required insurance amounts upon direction by Owner. If such increases result in additional costs to Contractor, Contractor may seek a Contract Modification for the actual cost (without additional markup, overhead, profit or any other amount) of such insurance as provided in Contract Documents.

1.05 Required Endorsements, Declarations and Certificates of Insurance.

- A. All insurance policies required under Paragraph 1.01 above shall be endorsed, in a form and manner acceptable to Owner, as follows (except that Paragraphs 1.05.A.1 and 1.05.A.5 will not apply to any Workers' Compensation and Employer's Liability Insurance, and only Paragraph 1.05.A.3 below will apply to Professional Liability Insurance):
 - 1. The County of San Mateo, including all subsidiary and affiliated entities, and their respective Board of Trustees and their employees, representatives, inspectors (including without limitation Project Inspector), consultants (including without limitation Architect/Engineer and its consultants), and agents, as additional insureds, but only with respect to liability arising out of the activities of the named insured.
 - 2. Each such policy shall apply separately to each insured against whom claim is made or suit is brought.
 - 3. Such insurance shall be primary and no other insurance or self-insured retention carried or held by Owner shall be called upon to contribute to a loss covered by insurance for the named insured.
 - 4. Such insurance shall contain a provision requiring the insurance companies to waive their rights of subrogation against Owner and all additional insureds, as well as other insurance companies for the Work.
 - 5. The payment of any deductible or SIR shall not be restricted to payment by the Named Insured or other Insured and any Additional Insured or other third party may make such deductible or SIR payment to comply with any policy deductible or SIR payment requirements.
- B. Contractor or its insurance broker shall submit a copy of the Declarations page for each policy under Paragraph 1.01 above. The page shall include the name of the insurance company, the policy number, the types of coverage and limits, the effective dates of the policy, and the broker's name and license number.
- C. Contractor or its insurance broker shall submit a Certificate of Insurance for each policy under Paragraph 1.01 above and all endorsements required therein. Certificates and endorsements shall have clearly typed thereon Owner Contract Number and title of Contract Documents. Written notice of cancellation, non-renewal, or reduction in coverage of any policy shall be mailed to the County of San Mateo at the address listed in Document 00 5201 (Agreement), sixty (60) Days in advance of the effective date of the cancellation, non-renewal, or reduction in coverage. Contractor shall maintain insurance in full force and effect during entire period of performance of Contract Documents.

1.06 Delivery of Certified Copies

A. Upon Owner's request, Contractor shall submit to Owner, within seven (7) days, certified copies of the actual insurance policies or renewals or replacements.

1.07 Further Deliveries

A. Contractor shall provide Owner with Certificates of Insurance and endorsements as required, and also requested copies of insurance policies, and renewals all of which are to be currently in effect and in accordance with other provisions of the Contract, no later than thirty (30) days before any Work is started and continued. Evidence of each insurance policy renewal shall be acceptable to Owner and shall be provided to Owner not less than thirty (30) days prior to the expiration date of the term of the policy.

1.08 Payment of Premiums

A. Contractor shall pay all insurance premiums, including any charges for required waivers of subrogation or the endorsement of additional insureds. If Contractor fails to maintain insurance, Owner may take out comparable insurance, at Contractor's sole cost and expense, and Owner may deduct and retain amount of premium from any sums due Contractor under Contract Documents or collect such amount by any means otherwise permitted by the Contract and applicable law.

1.09 Maintenance of Policies

A. Contractor shall keep insurance in force during warranty and guarantee periods, in addition to such other periods required by this Document 00 7311 and other provisions of Contract Documents. At time of making application for extension of time, and during all periods exceeding the Contract Time resulting from any cause, Contractor shall submit evidence that insurance policies will be in effect during requested additional period of time.

1.10 Injuries to Employees

A. If injury occurs to any employee of Contractor or Subcontractor (of any tier) for which the employee, or the employee's dependents in the event of employee's death, is entitled to compensation from Owner under provisions of the Workers' Compensation Insurance and Safety Act, as amended, or for which compensation of any kind is claimed from Owner, Owner may retain out of sums due Contractor under Contract Documents, amount sufficient to cover such compensation, as fixed by the Act, as amended, until such compensation is paid, or until it is determined that no compensation is due. If Owner is compelled to pay compensation, Owner may, in its discretion, either deduct and retain from the Contract Sum the amount so paid, or require Contractor to reimburse Owner.

1.11 Subcontractors' Insurance

- A. Except as provided in paragraph 1.11.B. below, all Subcontractors shall maintain the same insurance required to be maintained by Contractor (with the same deductibles/SIR's and other requirements) with respect to their portions of the Work, and Contractor shall cause the Subcontractors to furnish proof of insurance thereof to Contractor and Contractor will maintain such documents and renewals thereof until the Work is completed and through any warranty and guaranty period. Contractor shall also provide Owner, within ten (10) days of Owner's request, a complete copy of the Subcontractor's proof of insurance.
- B. Subcontractors need to obtain only \$1,000,000 limits each for Commercial General Liability, Commercial Auto Liability and Employers Liability Coverage B insurance, and obtain Owner's prior written approval in Owner's sole discretion of any Deductible or SIR in excess of \$100,000.

1.12 [Not used]

1.13 Loss of Use Insurance

A. Owner, at its option, may purchase and maintain such insurance as will insure Owner against the loss of use of its property due to fire or other similar hazards, however caused. The existence of such insurance benefiting Owner shall not reduce or limit any obligations of Contractor under the Contract Documents, including without limitation Contractor's obligation to complete the Work within the Contract Time for the Contract Sum, and such insurance shall not reduce the amount of damages from Contractor or any other amount under Contract Documents to which Owner would otherwise be entitled.

1.14 Project Safety Requirements

A. All Project safety requirements regardless of the type of insurance program implemented for this Project shall be fully binding on Contractor and Subcontractors without adjustment to any element of Contract Sum.

1.15 Insurance Is Independent

A. Nothing in this Document 00 7311 shall be construed as limiting in any way the extent to which Contractor or any Subcontractor may be held responsible for payment of damages resulting from their operations. The insurance, including additional insured status, required by this Document 00 7311 is in addition to and separate from any other obligations contained in Contract Documents, including without limitation indemnification obligations.

ARTICLE II – [NOT USED]

ARTICLE III – RESPONSIBILITY OF CONTRACTOR AND INDEMNIFICATION

3.01 Contractor's Responsibility for the Work

- A. Except for damage caused by the sole negligence, willful misconduct or active negligence of Owner or its agents, Contractor shall be solely responsible for any loss or damage that may happen to any part of the Work, materials or other things used in performing the work, injury, sickness, disease, or death of any person as a result of the Work, or resulting damage to property.
- B. Owner and each of its officers, employees, representatives, inspectors, consultants and agents including, but not limited to the Board, Architects/Engineers and each Owner Representative (Owner Parties), shall not be liable or accountable in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, or death of any person as a result of the Work; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, and Contractor releases all of the foregoing persons and entities from any and all such claims.
- C. With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against each of the Owner Parties.
- D. Contractor also waives subrogation rights under applicable insurance policies, to the greatest extent permitted by law, and will require this same waiver of subrogation by its subcontractors, in all policies of insurance, against all other project participants, to include Contractor, Subcontractors, all Owner Parties government agencies, engineers and other inspectors.

3.02 Claims Arising from the Work

A. To the furthest extent permitted by law (including without limitation California Civil Code section 2782), Contractor shall assume defense of, and indemnify and hold harmless, each of the Owner Parties, from and against claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to claims and fines of regulatory agencies and attorney's fees and consultant's fees, directly or indirectly arising out of, connected with or resulting from performance of the Work, failure to perform the Work, or condition of the Work which is caused in whole or part by any act or omission of Contractor, Subcontractors, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable.

3.03 Scope of Indemnification Obligation

A. Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them. In the event of loss, however, Contractor shall give all required notices to all insurance

carriers, and shall require its subcontractors to do the same. Owner may, in its discretion, request evidence of such notices form Contractor.

3.04 Scope of Contract Limitations of Liability

A. To the furthest extent permitted by law (including, without limitation, Civil Code section 2782), the indemnities, releases of liability and limitations of liability, claims procedures, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of contract, negligence (active or passive), fault or strict liability of the party(is) indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, abandonment, or completion of the Work or the terms of the Contract Documents.

END OF DOCUMENT 00 7311

DOCUMENT 00 7315

NATURALLY OCCURRING ASBESTOS

ARTICLE I – SUMMARY

1.01. This Document 00 7315 includes requirements that supplement the paragraphs of Document 00 7200 (General Conditions) as they apply to naturally occurring asbestos at the Site or at some other location at the Lathrop House which makes compliance with applicable naturally occurring asbestos requirements relevant to the Project.

ARTICLE II – SUPPLEMENT TO DOCUMENT 00 7200 PARAGRAPH 1.03 "PRECEDENCE OF DOCUMENTS"

2.01. Add new paragraph at the end of Paragraph 1.03 that reads:

A. Notwithstanding anything to the contrary above, should any provision or requirement of any Contract Document conflict with another provision or requirement in the Contract Documents on subject matters of naturally occurring asbestos, then the most stringent provision or requirement shall control.

ARTICLE III – SUPPLEMENT TO DOCUMENT 00 7200 PARAGRAPH 13.01 "LAWS AND REGULATIONS"

- **3.01.** Add new paragraphs at the end of Paragraph 13.01 that read:
 - A. Without limiting the foregoing, Contractor shall comply with all applicable requirements of the BAAQMD and any other applicable governmental requirements pertaining to naturally occurring asbestos, including without limitation all obligations to limit dust thereof. These requirements include, but may not be limited to, the following:
 - 1. Title 17 CCR, Section 93105, Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations
 - 2. Title 17 CCR, Section 93106, Asbestos Airborne Toxic Control Measure for Surfacing Operations.
 - Bay Area Air Quality Management District Compliance and Enforcement Division Compliance Advisory dated August 8, 2006, Subject "Asbestos Airborne Toxic Control Measure (ATCM) For Construction And Grading Projects."
 - 4. [Not Used]
 - B. Contractor has the sole responsibility for determining compliance with all matters related to naturally occurring asbestos. Without limiting the foregoing, Contractor shall develop and implement dust control measures during construction and mitigation of all disturbed areas completed which are acceptable to Owner.

ARTICLE IV – SUPPLEMENT TO DOCUMENT 00 7200 PARAGRAPH 13.04 "TERMINATION OF CONTRACT FOR CAUSE"

4.01. Add a new Paragraph at the end of paragraph 13.04 that reads:

A. Notwithstanding anything in Paragraph 13.04 to the contrary, Owner shall have an absolute right to terminate for default immediately without notice and without an opportunity to cure should Contractor knowingly or recklessly commit a material breach of the terms of the Contract Documents on any matter involving the exposure of persons or property to naturally occurring asbestos. However, if the breach exposing persons or property to naturally occurring asbestos is due solely to an ordinary, unintentional and non-reckless failure to exercise reasonable care, then the procedures in Paragraph 13.04 for termination for default shall apply without modification.

END OF DOCUMENT 00 7315

DOCUMENT 00 7380

APPRENTICESHIP PROGRAM

ARTICLE I – COMPLIANCE REQUIRED

1.01. Contractor and Subcontractors shall comply with the requirements of California Labor Code §§ 1776, 1777.5, and 1777.6 concerning the employment of apprentices by Contractor or Subcontractors. Willful failure to comply may result in penalties, including loss of the right to Bid on or receive public works contracts.

ARTICLE II – CERTIFICATION OF APPROVAL

- **2.01.** California Labor Code § 1777.5, as amended, requires a Contractor or Subcontractor employing tradespersons in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of a public works project and which administers the apprenticeship program in that trade for a certification of approval. The certificate shall also fix the ratio of apprentices to journeypersons that will be used in performance of the Contract. The ratio of work performed by apprentices to journeypersons in such cases shall not be less than one (1) *hour* of apprentices work for every five (5) *hours* of labor performed by journeypersons (the minimum ratio for the land surveyor classification shall not be less than one (1) apprentice for each five (5) journeypersons), except:
 - A. When unemployment for the previous three (3) month period in the area exceeds an average of 15 percent;
 - B. When the number of apprentices in training in the area exceeds a ratio of one to five (1:5);
 - C. When a trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis state-wide or locally; or
 - D. Assignment of an apprentice to any work performed under a public works contract would create a condition which would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyperson.

ARTICLE 2 - FUND CONTRIBUTIONS

2.01. Contractor is required to make contributions to funds established for administration of apprenticeship programs if Contractor employs registered apprentices or journeypersons in any apprentice able trades on such contracts and if other contractors on the public works site are making such contributions.

ARTICLE 3 - SKILLED AND TRAINED WORKFORCE REQUIREMENTS

3.01 Notwithstanding anything to the contrary contained in this Document 00 7380 and within the Contract Documents, Contractor is required to comply with the provisions of Public Contract Code 20146(c) and Public Contract Code 2600-2602. Contractor shall use a skilled and trained workforce as required by the Public Contract Code 20146(c)(1) and Public Contract Code 2600 through 2602. Contractor, and its subcontractors at every tier, will comply with the requirements of Public Contract Code Chapter 2.9 Skilled and Trained Workforce Requirements [2600-2602]. Contractor will provide to Owner, on a monthly basis while the project or contract is being performed, a report demonstrating compliance with Public Contract Code Chapter 2.9. If the Contractor fails to prove the monthly report, or provides a report that is incomplete, Owner shall withhold further payments until a complete report is provided. If a monthly report does not demonstrate compliance with Public Contract Code Chapter 2.9, County shall withhold further payments until Contractor provides a plan to achieve substantial compliance with this chapter, with respect to the relevant apprenticeable, occupation prior to completion of the Project.

ARTICLE 4 - APPRENTICESHIP STANDARDS

4.01. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of the California Department of Industrial Relations, or from the Division of Apprenticeship Standards and its branch offices.

END OF DOCUMENT 00 7380

DOCUMENT 01 0111

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END OF DOCUMENT 01 0111

DOCUMENT 01 1000

SUMMARY OF WORK

ARTICLE I – GENERAL

1.01. Summary

- A. Document includes summary of work including:
 - 1.02 Work Covered By Contract Documents
 - 1.03 Proposal Items, Cost Items, Allowances, and Alternates
 - 1.04 Work Under Other Contracts (Not Used)
 - 1.05 Future Work (Not Used)
 - 1.06 Work Sequence
 - 1.07 Work Days and Hours
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 - 1.11 Contractor Use of Premises and Coordination with Owner
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 - 1.13 Protection of Existing Conditions, Structures, and Utilities
 - 1.14 Damage to Existing Property
 - 1.15 Noise and Vibration Control
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 - 1.18 Parking
 - 1.19 Laydown/Staging Area
 - 1.20 Permits
 - 1.21 Punch List Verification
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 - 2.01 Products Ordered In Advance
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 - 3.05 Worker's Sanitary Provisions & Use of Owner's Facilities
 - 3.06 Equal Opportunity Requirements
 - 3.07 Foreign Materials & Assemblies
 - 3.08 Preservation of Cultural Resources

1.02. Work Covered By Contract Documents

A. The Project is comprised of following Project Components as described below:
 1. Submittals/Pre-Construction Activities

- i. Upon the County Issuance of the Project's Notice to Proceed the GC shall immediately prepare and submit all contractual related submittals for review and approval to the County. All activities pertaining to this section shall be completed within the first 30 calendar days from issuance of the Notice to Proceed. Other activities that are required but not limited to:
 - A. Submission of all contract related submittals
 - B. Prepare and submit to the County for approval a Critical Path Method Project Schedule. Schedule must be created and updated using Microsoft Project scheduling software.
 - C. Prepare, submit and obtain approval from the County a Schedule of Values (SOV) to be utilized for payment measurements. The SOV shall be submitted in CIS format.
 - D. Identify any long lead items that will have a challenging procurement.
 - E. Identify any substitution requested. Substitutions requested shall be provided in accordance with above and Document 00 7200. Substitutions that are submitted that are not in compliance with the Document 00 7200 will not be considered.
 - F. Conduct Pre-installation Meeting(s) as required with all trades performing work of the project prior to them executing their scope. The meetings shall be schedule at least two weeks prior to the start of their work. The County and Architect shall be in attendance for each individual meeting.
 - G. Submit, coordinate, procure and obtain approvals/permitting from the authorities having jurisdiction as required to facilitate the relocation, installation of utilities and construction of all scope required by this contract. The County will provide County Project Building Permit. GC to be responsible for any trade permits required for installation, encroachment, street closure or traffic light signal removal/reinstall.

2. Preparatory Scope for Relocation Activities (Existing/Donor Site)

- i. The relocation will require carefully detailed planning to assure the House is not damaged during the relocation process. The GC will be expected to provide project management services, site supervision and resources as needed to successfully complete the needed work. The anticipated activities shall include but not be limited to:
 - A. Provide and install temporary site fencing around the perimeter of the existing site. Fencing shall have a lockable double vehicular gate and lockable man gate. The GC shall submit to the County for approval a layout drawing of the fencing prior to placement.
 - B. Selected demolition as required to achieve scope. All demolition shall be approved by the owner prior to the start of the work.
 - C. Abatement as required to achieve required scope. See Document 00 7301 (Supplemental General Conditions) for entire scope.
 - D. Removal and potentially salvage of stairs and decks as indicated on the drawings. GC may elect to replace the stairs in kind at the new location.
 - E. Miscellaneous installation of materials for protection throughout the House.
 - F. Remove and salvage to reuse exterior perimeter skirting. Skirt to be re-installed at the new location.
 - G. Disconnect, demolish and safe-off all existing utilities. Existing utilities remaining to be secured in below grade vaults.
 - H. Limited landscape removal.
 - I. General site clean-up and ensure the site is free of safety hazards.
- 3. <u>Preparatory Scope at the New Location (New/Receiver Site)</u>
 - i. The work required at the new site is anticipated to be executed concurrently with the scope required at the existing site. Although, the GC will be responsible for the means and methods of construction, the County will not provide permission to move the House until the preparatory work for the Receiver Site has been completed and approved by the County or their appointed agent. The anticipated activities shall include but is not limited to:
 - A. Temporary site fencing
 - B. Removal of AC pavement as indicated on the drawings.

- C. Installation of underground utilities required for the House (storm and sanitary sewer, domestic water and electrical (low and high voltage).
- D. Subsurface preparation as required.
- E. Installation of concrete footings (stem walls for foundation shall be completed once the House is in its final location).
- F. Limited landscape removal (to facilitate the relocation)
- G. Obtain all approvals as required from authorities having jurisdiction for all related prior to moving of the house.
- 4. Lathrop House Relocation Scope (during actual move process)
 - i. After the GC has successfully achieve the required preparatory work as stated above and has received approval from the County to move the House the GC will transfer the house from the existing to the new site. The actual move will be required to be conducted at night (after hours) and the path of travel must be operational and completely functional as required by the authorities having jurisdiction prior to the next workday. Other anticipated activities for this portion shall include by not limited to:
 - 1. Provide adequate and qualified safety personnel to aid in the relocation process during the actual moving of the House (competent safety leaders and flagmen) while the building is prepared and transferred to the new site.
 - 2. After removal of the House from the existing site the GC shall make sure that all utilities are left in a safe manner.
 - 3. The CG will be required to provide "Stand by" personnel to remove and reinstall traffic signals and other items to ensure the path of travel is free of obstructions and the move process is achieved.
 - 4. The GC shall ensure the House is adequately braced and supported once at the new location. The bracing shall carry the load of the building prior to placement of the stem wall to complete the foundation.
- 5. Scope Required to Complete the Project (after the physical relocation has occurred)
 - i. After the physical move has been achieve to the new site the GC will diligently work to complete the remaining scope of work.
 - A. Provide continual monitoring of the temporary shoring, bracing and support system of the House prior to completion of the foundation activities.
 - B. Place the concrete stem wall to complete the foundation and secure the House as required to the new foundation. Remove all temporary bracing.
 - C. Complete MEP connections, all electrical, water and sewer connections shall be completed, tested, inspected by the authorities having jurisdiction and operational for use.
 - D. Install existing porch and stairs or construct new units in kind.
 - E. Install ramping, hardscape and all other ADA accessibility scope as indicated on the drawings.
 - F. Conduct and document a detailed inspection of the entire House (interior and exterior) with the County and Architect to identify any damage or items to be repaired prior to installation of ay wood construction/drywall/plaster/finishes. Additional abatement and demolition may be required.
 - G. Perform framing and other trades activities as required within the contact documents.
 - H. Install all finishes as indicted and in accordance with the contract documents.
 - I. Apply interior paint and install wallpaper as required.
 - J. Complete Paint of the exterior of the House. Repair areas as indicated with Item #6 (above).
 - K. Install final landscaping, irrigation, and site fencing as required within the construction documents.
 - L. Obtain any needed encroachment permits required from the City of Redwood City to remove concrete at existing drive way on Hamilton Street and replace with curb and gutter as indicated within the contract documents. GC to coordinate all work with all authorities having jurisdiction.

- M. Patch AC pavement as indicated, resurface remain parking area and restripe as indicated within the contract documents.
- N. Coordinate and obtain approval for final inspections for all authorities having jurisdiction.
- B. The selected GC will be responsible to achieve the completion all scope as directed within the contract documents no later than **one hundred two calendar days (102)** after the issuance of the Notice to Proceed. The selected GC will be responsible for scheduling and executing all of the work within the duration provided above utilizing the intermediate milestones provided by the County below:
 - a. Submittals All required contract submittals shall be submitted no later than 30 calendar days after the Notice to Proceed has been issued, The submittal process must be completed prior to moving the House.
 - b. Actual relocation/moving of the house The County anticipates the actual moving of the House to occur during the nighttime hours of the week of August 20-24, 2018.
- C. The Authorities Having Jurisdiction (AHJ) for all Project components includes, but are not limited to, State and Redwood City Fire Marshals, Redwood City, County of San Mateo Environmental Health Department, County of San Mateo Planning and Building Department and all other relevant agencies.
- D. Furnish all labor, materials, equipment, services, permits, temporary controls and construction facilities, and all general conditions, seismic requirements, general requirements and incidentals required to complete the Work in its entirety as described in the Contract Documents.
- E. The Work of this Contract includes Proposal and cost items shown in Document 00 4001 (Proposal Price Form) and other cost items described in this Section.
- F. The Work of this Contract comprises construction of all the Work indicated, described in the Specifications, drawings or otherwise required by the Contract Documents.
- G. Unless provided otherwise in the Contract Documents, all risk of loss to Work covered by Contract Documents shall rest with Contractor until Final Acceptance of the Work.
- I. Contractor's use of the premises for Work and storage is limited to the area indicated.
- J. Contractor shall be solely responsible for all utilities (including without limitation electricity, water, gas, low voltage etc.) at the Site and/or required to perform the Work.
- K. Existing materials and equipment removed and not reused as a part of the Work shall be offered for return to the Owner. Contractor shall carefully remove, in a manner to prevent damage, all materials and equipment specified or indicated to be salvaged and reused or to remain the property of Owner. Contractor shall store and protect salvaged items specified or indicated to be reused in the Work.
- L. Salvaged items not to be reused in the Work, but to remain Owner's property shall be delivered by Contractor in good condition to Owner.
- M. Any items specified or indicated to be salvaged which are damaged in removal, storage, or handling through carelessness or improper procedures shall be replaced by Contractor in kind or with new items.
- N. Contractor may furnish and install new items instead of those specified or indicated to be salvaged and reused, in which case such removed items will become Contractor's property.
- P. Existing materials and equipment removed by Contractor shall not be reused in the Work, except where so specified or indicated. Remove, cut, alter, replace and repair existing equipment and casework, as necessary to install new Work. Except as otherwise shown or specified, do not cut, alter or remove any structural Work, and do not disturb any ducts, plumbing, gas, or electrical Work without approval of Owner. Existing Work (walls, structures, partitions, floors, mechanical and electrical Work, etc.) disturbed or removed as a result of performing required new Work, shall be restored to the original conditions. Existing Work to be altered or extended and that found to be defective in any way, shall be reported to Owner before commencing Work. Materials and workmanship used in restoring Work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
- Q. Prior to Proposal, Contractor shall review all existing facilities that are related to this Contract and shall be familiar with all utilities requirements and construction.

- R. Provide overall management control and coordination of all the parties under its control involved in Project's construction phase including, but not limited to, all Trade Subcontractors and direct material suppliers or equipment suppliers, and coordination with all other parties involved in Project's construction phase including, but limited to, Project Inspector, inspection and testing companies, surveyors, state and local authorities, Architects/Engineers, and all pertinent Owner departments.
- S. Prepare and process letters, paperwork and other related elements for the administration of the Project. Maintain construction files to properly organize and keep all necessary documents.
- T. Continually track, coordinate and manage to manage change order, COR, ACD, ASI, CCD, submittal log, RFI tracking, deficiency lists, payment requests, etc.
- U. Coordinate access to the Work by Owner's inspection personnel for random job site visits. Document preconstruction conditions of the site and adjacent improvements through photographs and advise if other measures are reasonably necessary.
- V. Ensure that as-built documents are being recorded as construction progresses and deliver these documents to Owner when construction is complete. GENERAL CONTRACTOR shall make its best efforts to see that the documents are organized, indexed and complete.
- W. Continuously comply with all testing, inspection and observations (TIO) requirements and all other statutory requirements.
- X. As part of Project close out, collaborate with Owner's Project team, including without limitation Owner, Project Inspector and Architects/Engineers, to develop and implement procedures for: completion of punch list items, TIO documentation, operational systems and equipment, training Owner's building maintenance staff, and initial startup, commissioning and testing. Prepare and deliver warranties, coordinate and submit as-built drawings, prepare maintenance manuals, complete training programs, and administer Project closeout. Ensure performance of all warranty obligations, resolution of all claims and disputes, and other post-construction requirements through Final Completion.
- Y. Proposers may see Architectural and subconsultant drawings in Exhibit 1, which precedes Division 33, at the end of this Document.

1.03. Proposal Items, Cost Items, Allowances, And Alternates

- A. <u>Descriptions of Lump Sum Proposal and Cost Items (listed by Cost Item Numbers) That Comprise</u> <u>the Contract Sum</u>.
 - a. Cost Item 1. Direct Cost of Construction that is the Aggregate total Cost of Work of Subtrade including Self-Perform Subtrade Work: As provided in Document 00 5201 (Agreement).
 - b. Cost Item 2-4. Bonds, Insurance and Taxes. As described and identified on Appendix D hereto and as required per Document 00 6113.12, Document 00 6113.18 and Document 00 7311.
- B. Descriptions of Unit Price Items and Basis of Measurement for Payment.
 - 1. [not used]
- C. Allowances.
 - (not used) Allowance work shall be done as Change Orders and as specified in Document 01 2600 (Contract Modification Procedures). Identify Allowance Items work on the Progress Schedules and on Applications for Payment.
 - 2. The amounts given below with each Allowance Item is the sum of money set aside for each Allowance Item. These amounts shall be included in the applicable Proposal and Cost Items indicated below.
 - 3. If the cost of work done under any Allowance Item is less than the amount given below for that Allowance Item, the Contract Sum shall be reduced by the difference between the amount given below and the cost of work actually done. If the cost of work done under any Allowance Item is greater than the amount given below for that Allowance Item, the Contract Sum shall be increased by the difference between the amount given below and the cost of work actually done.
 - 4. Scope of Allowances for Proposal and Cost Item 3 (GENERAL CONTRACTOR's General Conditions): [not used]
 - 5. Scope of Allowances for Cost Item 5 (Aggregate Trade Subcontractor Cost): [not used]
- D. <u>Alternates</u>.

- 1. (not used)
- 2. Scope of Alternates: [not used]
- E. Payment of all items is subject to provisions of Contract Documents, including without limitation Document 01 2900 (Payment Procedures).
- F. For all Proposal and Cost Items, furnish and install all work indicated and described in Specifications, drawings and all other Contract Documents, including connections to existing systems. Work and requirements applicable to each individual Item, or unit of Work, shall be deemed incorporated into the description of each Proposal or Cost Item (whether Lump Sum, Unit Price).
- G. Contractor shall develop its schedule of values and monthly payment applications to track progress, pricing and completion of each Proposal and cost item. Proposal and Cost Items are not intended to be exclusive descriptions of work categories and GENERAL CONTRACTOR shall determine and include in its pricing all materials, labor, and equipment necessary to complete each Proposal or Cost Item as shown and specified.
- H. Any Trade Subcontract Proposal or Proposal or Cost Item within a Trade Subcontract Proposal, may be deleted from the Work and Contract Sum, in total or in part, prior to or after award of Contract without compensation in any form or adjustment of other Proposal or Cost Items or prices therefore.

1.04. Work Under Other Contracts

A. [not used]

1.05. Future Work

A. (not used]

1.06. Work Sequence

- B. Contractor acknowledges that shoring will be required to maintain a safe excavation and to protect facilities, including both existing and recently constructed under this Contract. All expenses for shoring of excavations shall be included in the appropriate cost items.
- C. Contractor acknowledges that management of surface and groundwater will be required at the Site, particularly during and after rain. Contractor shall take all appropriate measures, including, but not limited to, dewatering, pumping, diversion and removal of surface and ground water from the Site and adjacent property, lime treatment where necessary, to prevent accumulations of water and to facilitate reasonable construction progress during and after rains, and SWPP compliance. See also paragraph 1.26 below.

1.07. Work Days And Hours

- A. Normal working days and hours: .Monday-Friday inclusive, 7:00 a.m.-5:00 p.m., local time, or as approved in writing by Owner representative.
- B. Contractor is advised that operating hours in the areas where work will be performed may vary and flexibility in hours should be incorporated into the Project Schedule at no additional cost to Owner.
- C. Work at the Site on evenings (except as provided above), Sundays or holidays is not permitted, unless Contractor requests otherwise from Owner in writing at least 48 hours in advance and Owner approves in its sole discretion. In the case of Work by Contractor other than normal working hours identified in paragraph 1.07.A. above, Contractor shall be responsible for any additional inspection costs incurred by Owner. Such costs may be withheld from any succeeding monthly progress payment.
- D. Connections to or Alterations of Existing Facilities. Unless otherwise specified or indicated, Contractor shall make all necessary connections or alterations to existing facilities, including structures, drain lines, and utilities such as water, sewer, gas, telephone, and electric, as the Plans require. In each case, Contractor shall provide advance notice to and receive permission from Owner or the owning utility prior to undertaking any connection or making any alteration.
- E. Contractor shall protect facilities against deleterious substances and damage.
- F. Normal Hours Of Work for Contractor's operations, which are located within city limits, must comply with County of San Mateo ordinances and requirements of the Redwood City. Contractor's operations in the County's unincorporated areas or areas which border a city, town or other county

must comply with requirements of San Mateo County or requirements adopted by other jurisdictions, whichever are more stringent. In case of conflict between the requirements of a city, the County, and the requirements of the Contract Documents, the most restrictive requirements will govern.

1.08. Cooperation Of Contractor And Coordination With Other Work

- A. Contractor shall coordinate with Owner and any Owner forces, or other contractors and forces, as required by Document 00 7200 (General Conditions), Article VI.
- B. Contractor shall submit all required Coordination Drawings as soon as practical to insure efficient installations and to avoid conflicts. The timing of said submittals may vary depending on the timing of shop drawing approvals and equipment and material submittals, but must be in time to allow for proper review and approval before the start of work associated with the coordination drawings.
- C. Contractor shall coordinate the construction schedule with the schedule of Owner for normal power service installation.
- D. Noise: Construction activities shall at all times comply with applicable local noise ordinance and applicable Cal-OSHA regulations. Contractor shall further coordinate and schedule construction operations as specified herein.

1.09. Maintenance, Product Handling, And Protection

- A. Contractor shall transport, deliver, handle, and store materials and equipment at the Site in such a manner as to prevent the breakage, damage or intrusions of foreign matter or moisture, and otherwise to prevent damage.
- B. <u>Hazardous substance compliance</u>. Contractor shall provide Owner with copies of the OSHA Material Safety Data Sheets (MSDS) for all products containing a hazardous substance, examples: Adhesives, paints, sealants, and the like.
- C. <u>Packaging</u>. Contractor shall provide packaged material in manufacturer's original containers with seals unbroken and labels intact until incorporated into the Work.
- D. Contractor shall remove all damaged or otherwise unsuitable material and equipment promptly from the Site.
- E. <u>Protection</u>. Contractor shall protect all finished surfaces. Contractor shall be required to provide materials and labor for permanently affixed items to the house.
- F. <u>Asbestos Removal</u>. If, during the progress of the Work, suspected asbestos-containing products are identified, Contractor shall stop work in the affected area and immediately notify Owner, and engage an asbestos removal Subcontractor to verify the materials and, if necessary, encapsulate, enclose, or remove and dispose of all asbestos in accordance with current regulations of the Environmental Protection Agency and the U. S. Department of Labor Occupational Safety and Health Administration, the state asbestos regulating agency, and any local government agency. Payment for such work will be made by Change Order.
- G. <u>Asbestos Removal Subcontractor's Qualifications</u>. The Subcontractor for asbestos removal shall be regularly engaged in this type of activity and shall be familiar with the regulations that govern this work. The Subcontractor shall demonstrate to the satisfaction of Owner that it has successfully completed at least three asbestos removal projects, that it has the necessary staff and equipment to perform the work, and that it has an approved site for disposal of the asbestos. Liability insurance covering the asbestos abatement work shall be provided as specified in the Supplementary Conditions.
- H. <u>Asbestos Removal Methods</u>. The hazardous material removal Subcontractor shall follow the County Work Plan provided in Document 00 7301 Supplementary Conditions before beginning work and shall certify that the methods are in full compliance with the governing regulations. The work plan shall cover all aspects of the removal, including health and safety of employees and building occupants, hygiene facilities, employee certification, clearance criteria, transportation and disposal, enclosure techniques, and other techniques appropriate for the proposed work.
- I. Cost of maintenance of systems and equipment prior to either Substantial Completion or Final Completion will be considered as included in prices Proposal and no direct or additional payment will be made therefore.

1.10. Partial Occupancy/Utilization Requirements

- A. Contractor shall allow Owner to take possession of and use any completed or partially completed portion of the Work during the progress of the Work as soon as is possible without interference to the Work.
- B. Possession, use of Work, and placement and installation of equipment by Owner shall not in any way evidence the completion of the overall Work.
- C. Contractor shall not be held responsible for damage to the occupied part of the Work resulting from Owner occupancy.
- D. If so requested by Owner, Contractor shall make available, in areas occupied, on a 24-hour per day and seven-day per week basis if required, any utility services, heating, and cooling in condition to be put in operation at the time of occupancy.
 - 1. Responsibility for operation and maintenance of said equipment shall remain with Contractor.
 - 2. Contractor shall make, and Owner shall certify, an itemized list of each piece of equipment so operated with the date operation commences.
 - 3. Itemized list noted above shall be basis for commencement of warranty period for equipment.
 - 4. Owner shall pay for utility cost arising out of occupancy by Owner during construction.
- E. Use and occupancy by Owner prior to acceptance of Work does not relieve Contractor of its responsibility to maintain insurance and bonds required under the Contract until entire Work is completed and accepted by Owner.
- F. Prior to date of Final Acceptance of the Work by Owner, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in Document 00 7200 (General Conditions).
- G. Use by Owner of Work or part thereof as contemplated by this Document 01 1000 shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve Contractor of any responsibilities under Contract, nor act as waiver by Owner of any of the conditions thereof.
- H. Owner may specify in the Contract Documents that portions of the Work shall be substantially completed on dates prior to substantial completion of all of the Work. Contractor shall notify Owner's Representative and Architect/Engineer in writing when Contractor considers any such part of the Work ready for its intended use and substantially complete and request Owner to issue a Certificate of Substantial Completion for that part of the Work.

1.11. Contractor Use Of Premises And Coordination With Owner

- A. Contractor shall confine operations at Site to areas permitted by Contract Documents, permits, ordinances, and laws.
- B. Contractor shall not unreasonably encumber Project Site with materials or equipment.
- C. Constructor shall limit use of premises for work and for storage. No storage of construction materials outside designated areas will be permitted.
- D. Contractor shall assume full responsibility for protection and safekeeping of products stored on premises.
- E. Contractor shall move any stored products that interfere with operations of Owner or other contractor.
- F. Contractor shall coordinate parking, storage, staging, and work areas with Owner, and comply with all other Contract documents requirements.

1.12. Lines And Grades

- A. All Work shall be done to the lines, grades, and elevations indicated on the Drawings.
- B. Upon request, Owner shall provide basic horizontal and vertical control points to be used as datums for the Work. All additional survey, layout, and measurement work shall be performed by Contractor as a part of the Work.
- C. Contractor shall provide at its cost an experienced instrument person, competent assistants, and such instruments, tools, stakes and other materials required to complete the survey, layout, and

measurement work. In addition, Contractor shall furnish at its cost competent persons and such tools, stakes, and other materials as Owner (and/or any Architect/Engineer) may require in establishing or designating control points, or in checking survey, layout, and measurement work performed by Contractor. Although measurement, sampling, and testing may be considered evidence as to conformity with the Drawings, Owner's Authorized Representative is the sole judge as to whether the Work or materials deviate from the requirements of the Drawings, and the decision of the Owner's Authorized Representative as to any allowable deviation therefrom is final.

- D. Contractor shall keep Owner informed, a reasonable time in advance, of the times and places at which it wishes to do Work, so that any checking deemed necessary by Owner may be done with minimum inconvenience to Owner and minimum delay to Contractor.
- E. Contractor shall remove and reconstruct Work which is improperly located.

1.13. Protection Of Existing Structures, Utilities And Special Conditions

- A. For all work involving trenching or excavation of any type, Contractor shall locate all known existing installations and underground facilities, before proceeding with trenching or other operations which may cause damage, shall maintain them in service where appropriate, and shall repair any damage to them caused by the Work, at no increase in Contract Sum.
- B. Additional utilities whose locations are unknown to Owner are suspected to exist. Contractor must be alert to their existence and, before excavation Work begins, shall develop appropriate safety measures to prevent harm to such additional utilities and then employ those safety measures during the Work. Contractor also, before excavation Work begins, shall develop a delay mitigation strategy to employ if additional utilities are encountered. If additional utilities are encountered, Contractor must immediately begin delay mitigation efforts and report to Owner for disposition of the Work affected by the additional utility discovery.
- C. Additional special underground conditions whose locations are unknown to Owner may exist, including without limitation Native American burial sites. Before excavation Work begins, Contractor shall develop, submit for review and employ appropriate safety measures during the Work to prevent harm to such special conditions and develop a delay mitigation strategy to employ if such special conditions are encountered. If such additional special conditions are encountered, Contractor must immediately notify Owner, coordinate with Owner as necessary or requested, begin delay mitigation efforts, and report to Owner for disposition of the Work affected by the discovery of the underground condition.
- D. In addition to reporting, if a utility or special underground condition is damaged, Contractor must take appropriate action as provided in Document 00 7200 (General Conditions).
- E. Additional compensation or extension of time on account of utilities or other special underground condition not indicated or otherwise brought to Contractor's attention including reasonable action taken to protect or repair damage shall be determined as provided in Document 00 7200 (General Conditions).

1.14. Damage To Existing Property

- A. Contractor will be responsible for any damage to existing structures, Work, materials, or equipment because of its operations and shall repair or replace any damaged structures, Work, materials, or equipment to the satisfaction of, and at no additional cost to, Owner.
- B. Contractor shall protect all existing structures and property from damage and shall provide bracing, shoring, or other work necessary for such protection.
- C. Contractor shall be responsible for all damage to streets, roads, curbs, sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, or other public or private property, which may be caused by transporting equipment, materials, or workers to or from the Work. Contractor shall make satisfactory and acceptable arrangements with the agency having jurisdiction over the damaged property concerning its repair or replacement.

1.15. Noise and Vibration Control

- A. Noise and vibration shall be kept to a minimum in construction operations. Use of jackhammers and rotohammers are not permissible, except with prior approval from Owner. Use of open-air radios is prohibited.
 - 1. Contractor shall conduct its Work in conformance with any noise abatement and control requirements of the County of San Mateo and Redwood City.
 - 2. Coredrilling, sawcutting and jackhammering of concrete inside and outside the building, and all construction Work within occupied spaces shall be performed on regular hours.
- B. When required by OSHA Standards, construction workers shall be provided with ear protection to operate equipment.
- C. Contractor shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound-muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work. During construction activities on or adjacent to occupied buildings, and when appropriate, Contractor shall erect screens or barriers effective in reducing noise in the building and shall conduct its operations to avoid unnecessary noise which might interfere with the activities of building occupants.
- D. Contractor shall ensure and provide certification to Owner that all construction equipment and vehicles used for the Work are:
 - 1. Maintained in good mechanical condition
 - 2. Equipped with properly installed engine mufflers

1.16. Dust Control

- A. Contractor shall take reasonable measures to prevent unnecessary dust and comply with ICRA Permit requirements. The following items shall be specifically implemented to control dust:
 - 1. All construction locations with active excavation shall be watered at least twice daily.
 - 2. Cover all trucks hauling soil, sand, and other loose materials.
 - 3. Pave, apply water daily, or apply non-toxic soil stabilizers on all un-paved access roads, parking areas, and staging areas at construction site.
 - 4. Sweep daily with water sweepers all paved access roads, parking areas, and staging areas at construction sites during earthwork activities.
 - 5. Enclose, cover, water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.)
 - 6. Limit the speed of all construction vehicles to 5 miles per hour while on un-paved roads at the Site.
- B. Buildings or operating facilities which may be affected adversely by dust shall be adequately protected from dust. Existing and new machinery, motors, instrument panels, or similar equipment shall be protected by suitable dust screens. Proper ventilation shall be included with dust screens.
- C. Building Interiors: provide dust barriers, walk-off pads, etc. to minimize dust infiltration in buildings. Contractor will clean interior common areas (e.g., corridors, lobbies) at the end of each work day and as required by Owner.

1.17. Odor Control

A. Contractor shall make every effort to minimize the levels of odors and fumes and similar items to the extent possible and in accordance with local ordinances or other requirements and with written authorization from Owner.

1.18. Parking

A. Contractor shall be responsible for their own parking. The use of mass transit and carpooling are strongly encouraged.

1.19. Laydown/Staging Area

A. Contractor shall utilize an **approved Owner's designated area** for storage of all construction materials, and no other area at or adjacent to the site. This area shall be fenced and locked by Contractor for security purposes.

1.20. Permits

- B. Contractor shall obtain all permits and licenses required for the Work, and shall pay all charges and fees, give notices necessary and incident to the due and lawful prosecution of the Work, unless otherwise specified.
- C. An approved set of plans and specifications shall be kept at the job site by the Contractor readily available for inspection during regular hours for the duration of the Project.
- D. Applicable permits: Permits, agreements, or written authorizations that are known by Owner to apply to this project are listed below.
 - 1. Building Permit. Owner will obtain Building Permit assisted by the Architects/Engineers.
 - 2. Cal/OSHA Permit. The Contractor shall obtain, all applicable permits required by Cal/OSHA, including but not limited to:
 - a. Construction of trenches or excavations that are five feet or more in depth and into which a person is required to descend.
 - b. Erection or dismantling of vertical shoring systems more than three stories high, or the equivalent height (36 feet).
 - 3. Shoring and trenching permit as required by OSHA and/or local authorities.
 - 4. All other permits that may be required, such as electrical, mechanical, fire prevention, encroachment, irrigation, grading, slope protection, tree cutting, etc., have not been applied for and shall be obtained by Contractor. Applicable permit fees will be reimbursed to the extent specified in Document 00 7200 (General Conditions).
 - 5. See also Documents 01 4100 (Regulatory Requirements) and 01 4200 (References and Definitions).

1.21. Punch List Verification

A. A punch list examination will be performed upon Substantial Completion of each Project Component. One follow-up review of punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, Contractor shall reimburse Owner for these additional visits.

1.22. Unfavorable Construction Conditions

A. During unfavorable weather, wet ground, or other unsuitable construction conditions, Contractor shall confine its operations to Work which will not be affected adversely by such conditions. Access for construction personnel shall be limited to 7:00 a.m. to 5:00 p.m. local time, or as approved by Owner representative. No portion of the Work shall be constructed under conditions which would affect adversely the quality or efficiency thereof, unless special means or precautions are taken by Contractor to perform the Work in a proper and satisfactory manner. The Contractor will employ best practices to manage the construction site during inclement weather. Persons performing the Work shall examine surfaces to receive their Work and shall report in writing to Contractor, with copy to Owner representative and the Architect conditions detrimental to the Work. Failure to examine and report discrepancies makes the Contractor responsible, at no increase in Contract Sum, for corrections Owner may require. Commencement of Work constitutes acceptance of surface.

1.23. Construction Site Access

- A. Contractor shall at all times limit access to the Site to necessary personnel only. All personnel associated with construction of the Project shall enter the site through Contractor's access gate, at the location indicated on the Drawings.
- B. All mail and deliveries (Federal Express, equipment, etc.) shall be sent to a separate address (at Contractor's gate), specifically arranged by Contractor for the Project. Contractor is responsible for

providing adequate signage (subject to Owner approval) to alert delivery persons to the new address. Owner will not receive or forward Contractor mail or deliveries.

1.24. Site Administration

A. Contractor shall be responsible for all areas of the Site used by it and by all Subcontractors in the performance of the Work. Contractor shall exert full control over the actions of all employees and other persons with respect to the use and preservation of property and existing facilities, except such controls as may be specifically reserved to Owner or others. Contractor shall have the right to exclude from the Site all persons who have no purpose related to the Work or its inspection, and may require all persons on the Site (except Owner's employees) to observe the same regulations as Contractor requires of its employees.

1.25. CEQA Mitigations

- A. (not used)
- B. (not used)

1.26. NPDES Stormwater Permit Requirements

- A. Owner is the responsible party for filing the Project's 'Notice of Intent' (NOI) and paying the annual permit fee. Upon obtaining permit coverage Contractor shall be fully responsible for implementing all requirements of the Construction General Permit, Order 2009-0009-DWQ, as amended (General Permit), and the Project's Storm Water Pollution Prevention Plan (SWPPP) (see Document 01 5700).
- B. Before disturbing any soil, Contractor shall verify that coverage under the General Permit has been obtained and that Owner has filed an NOI. Contractor shall implement and monitor the Project's SWPPP in accordance with all State of California Water Resources Control Board (SWRCB) requirements. Contractor shall have a Qualified SWPPP Practitioner (QSP) on the Project Site throughout the construction process as required by the SWRCB, and the QSP shall file all required reports with the SWRCB. Contractor shall be solely responsible for paying, and shall pay, any fines levied by the State of California for failing to file required reports or information.
- C. Without limiting the foregoing, Contractor shall:
 - 1. Quarterly monitor and report on any non-storm water discharges, prepare pre-storm, during storm and post-storm reports and perform weekly BMP inspection reports.
 - 2. Before September 1 of each year the Project is under construction, compile and prepare all information required for the preparation of the Project's 'Annual Report' and shall submit it to Owner in a timely fashion so Owner can timely submit it to the SWRCB.
 - 3. At completion of construction, compile and prepare all information required for the preparation of the Project's 'Notice of Termination' (**NOT**) and shall submit it to Owner in a timely fashion so Owner can timely submit it to the SWRCB.

1.27. Construction Safety Risk Assessment (CSRA)

- A. Contractor shall coordinate a pre-construction site meeting and site walk for the sole purpose of conducting Owner's Construction Safety Risk Assessment (CSRA). The CSRA shall be conducted at least seven (7) working days prior to any construction work. The attendees for this meeting will be Owner's Project Manager, Project inspector, Contractor's Authorized Representative, and Owner's Environmental Health & Safety (EH&S) Representative.
- B. During this pre-construction site meeting and site walk the EH&S Representative will gain an understanding of the scope of the Project, identify potential safety hazards, and recommend safety measures that will be required to be implemented prior to any construction work. At the conclusion of this meeting and walk of the construction site Owner's CSRA form will be completed as required by Owner's EH&S policy.

1.28. Not Used

1.29. Not Used

1.30. Not Used

1.31. Welding Permit Requirements

- A. Contractor is required to submit Owner's Welding Permit for any hot work or any use of a sparking tool. This Welding Permit request must be submitted 48 hours in advance of the work.
- B. Contractor is required to follow and ensure that all Subcontractors and any other site visitor follow the Welding Permit requirements at all times when on Owner's campus. Failure to follow the Welding Permit requirements will result in the specific Contractor, Subcontractor or other site visitor being required to permanently leave Owner's campus.

ARTICLE II – PRODUCTS

2.01. Products Ordered In Advance: (N/A)

2.02. Owner Furnished/Contracted Installed Products (if required only)

See also Document 01 6400 (Owner Furnished Owner Installed/Contractor Installed (OFOI/OFCI) Items if required).

- A. <u>Owner's Responsibilities</u>.
 - 1. Arrange for and deliver Owner-reviewed Shop Drawings, Product Data, and Samples, to Contractor.
 - 2. Arrange and pay for delivery to site.
 - 3. On delivery, inspect products jointly with Contractor.
 - 4. Arrange for manufacturers' warranties, inspections, and service.
- B. Contractor's Responsibilities.
 - 1. Review Owner-reviewed Shop Drawings, Product Data, and Samples.
 - 2. Receive and unload products at site; inspect for completeness or damage jointly with Owner.
 - 3. Handle, store, install, and finish products.
 - 4. Repair or replace items damaged after receipt.
 - 5. Install into Project per Contract Documents.

ARTICLE III – OTHER REQUIREMENTS

3.01. Safe Use of Pesticides

- A. Contractor must comply with all Federal, State and local rules and regulations governing pesticides that are required or used in performing Work.
- B. The term pesticide includes, but is not limited to: herbicides, insecticides, fungicides, rodenticides, germicides, nematicides, bactericides, inhibitors, fumigants, defoliants, desiccants, soil sterilants, repellents, and any substance or mixture of substances intended for preventing, repelling, mitigating, or destroying weeds, insects, diseases, rodents, or nematodes, and any substance or mixture of substances intended to use as a plant regulator, defoliant, or desiccant.
- C. Contractor must comply with San Mateo County Ordinance Code relating to integrated pest management and pesticide use. The Ordinance includes, but is not limited to specific requirements for:
 - 1. restricted or prohibited use of certain pesticides
 - 2. record keeping
 - 3. reporting
 - 4. public notice and posting requirements

3.02. Air Pollution Control

A. Contractor and each Subcontractor must comply with all air pollution control rules, regulations, ordinances, statutes, and Project specific permit requirements of the Bay Area Air Quality Management District (BAAQMD) and all other regulatory agencies that apply to any Work performed. If there is a conflict between the Bay Area Air Quality Management District rules,

regulations, ordinances, and statutes and the rules, regulations, ordinances, and statutes of other regulatory agencies, the most stringent shall govern.

- B. Contractor must not discharge smoke, dust or any other air contaminants into the atmosphere in such quantity as will violate any regulations.
- C. Contractor must minimize dust nuisances resulting from performance of the Work, both inside and outside the Project limits, by applying either water or dust palliative, or both.

3.03. Water Pollution Control

- A. Contractor must comply with all Federal, State and local water pollution prevention and storm drain pollution prevention rules, regulations, ordinances, statutes, guidelines, and Project specific permit requirements.
- B. If required by law, ordinance, regulation, code, permit or the requirements of the Contract Documents, Contractor must prepare a Project Specific Storm Water Pollution Prevention Program (SWPPP). See also Paragraph 1.26 and Document 01 5700 (SWPPP).
- C. Contractor must exercise every reasonable precaution to protect storm drains, channels and all bodies of water from pollution, and must conduct and schedule operations so as to avoid or minimize muddying and silting of any waters. Contractor must construct whatever facilities are necessary or requested by Owner to provide prevention, control and abatement of water pollution.
- D. No provision of the Contract Documents relieves Contractor of responsibility for compliance with California Fish and Game Code §5650 et seq, and §12015 et seq, and applicable regulations of the Regional Water Quality Control Board, San Mateo County flood control and water district requirements, or other applicable statutes relating to prevention and removal of water pollution.
- E. Compliance with water pollution requirements does not relieve Contractor from responsibility to comply with all provisions of the Contract Documents, particularly Contractor's responsibilities for damage and preservation of property.

3.04. Noise Control

- A. The Contractor must comply with all CAL OSHA requirements.
- B. The Contractor must comply with all local sound control and noise level rules, regulations, and ordinances that apply to any Work performed pursuant to the requirements of the Contract Documents.
- C. Noise level from and hours of Contractor's operations, that are located within city limits, must comply with city ordinances or requirements. Contractor's operations in the County's unincorporated areas or areas which border a city, town or other county must comply with the noise level requirements per the San Mateo County Ordinance Code, City of Redwood City Code and Ordinances, and other applicable requirements adopted by other jurisdictions, whichever are more stringent.
- D. Noise level requirements apply to all equipment used in the Project including, but not limited to, trucks, transit mixers, or equipment that may or may not be owned by the Contractor. The use of loud sound signals must be avoided in favor of warning lights except those required by safety laws for the protection of personnel.

3.05. Worker's Sanitary Provisions & Use of Owner's Facilities

- A. Contractor must conform to the rules and regulations for sanitary provisions established by the State, the County of San Mateo, and any other applicable jurisdictions.
- B. Contractor must provide and maintain toilets for use by its employees. These accommodations must be maintained in a neat and sanitary condition, and must comply with all applicable laws, ordinances and regulations pertaining to public health and sanitation.
- C. Contractor's personnel must not use Owner's facilities without express written permission, which will be at Owner's sole discretion. Such Owner's facilities include but are not limited to toilet facilities, food service facilities (cafeteria and coffee shop), utilities services of any kind, carts, fire extinguishers, parking, storage space and any other facilities and services.

3.06. Equal Opportunity Requirements

A. The County of San Mateo is an equal opportunity employer. Contractor must comply with all applicable Federal, State, and local laws and regulations including San Mateo County's equal opportunity requirements. Such laws include but are not limited to the following: Title VII of the Civil Rights Act of 1964 as amended; Americans with Disabilities Act of 1990; The Rehabilitation Act of 1973 (§503 and 504); California Fair Employment and Housing Act (Government Code §12900 et seq.); California Labor Code §1101 and §1102. Contractor must not discriminate against any Subcontractor, employee, or applicant for employment because of age, race, color, national origin, ancestry, religion, sex/gender, sexual orientation, mental disability, physical disability, medical condition, political beliefs, organizational affiliations, or marital status in the recruitment, selection for training including apprenticeship, hiring, employment, utilization, promotion, layoff rates of pay or other forms of compensation.

3.07. Foreign Materials & Assemblies

- A. Contractor must deliver materials or assemblies which are Manufactured or Fabricated outside of the United States ("Foreign Materials & Assemblies") to a location in San Mateo County unless otherwise directed in the Contract Documents, where they must be retained for sufficient time to permit inspection, sampling, and testing. Contractor, at no cost to Owner, must supply all facilities and arrange for all testing required by Owner. All testing by Contractor is subject to witnessing by Owner.
- B. Contractor must furnish Owner a Certificate of Compliance from the Manufacturer or fabricator of any Foreign Materials or Assemblies. In addition, Contractor must furnish certified mill test reports clearly identifiable to the lot of material where required in the Project Manual or otherwise requested by Owner.
- C. Use of steel Manufactured outside the United States is restricted to steel which can be positively identified as having been rolled at the heat for which certified mill tests can be produced.
- D. Where Manufactured materials requiring mill test reports or Fabricated assemblies involving the welding of steel for structural steel members or the casting and pre-stressing of precast prestressed concrete members are to be performed outside the United States, such Manufactured materials or Fabricated structural members shall be provided only from those foreign Manufacturers and Fabricators who have previously established, to Owner's satisfaction, that they have the experience, knowledge, trained personnel, quality controls, equipment, and other facilities required to produce the quality and quantity of Work required.
- E. At Owner's option, prequalification of the plant and Manufacturer or Fabricator will be established either by the submission of detailed written proof thereof or through in plant inspection by representatives of the Owner, or both.
- F. Contractor must make written application to Owner for approval for foreign Fabrication at the earliest possible time and in no case less than fifty (50) Days before the planned start of Fabrication. The application must list the specific units or portion of Work that will be Fabricated outside of the United States.
- G. Contractor must advise Owner, in writing, at least twenty (20) Days before the actual start of any foreign Fabrication.
- H. All documents pertaining to the Contract, including but not limited to, correspondence, Bid Documents, Shop Drawings, Product Data, Record Documents, Requests for Information, and all other Submittals and data must be written in the English language and all numerical data must use the foot pound second system of measurement.
- I. Contractor is not entitled to an extension of Contract Time for acts or events occurring outside of the United States, and it is Contractor's responsibility to deliver Foreign Materials & Assemblies into the continental United States in sufficient time to permit timely receipt at the Project Site.

3.08. Preservation of Cultural Resources

A. Pursuant to the National Historic Preservation Act of 1966, State laws and County ordinances, the following procedures are implemented to ensure historic preservation and fair compensation to Contractor for construction delays that may occur due to cultural resources discoveries.

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- B. In the event potentially historical, architectural, archaeological or cultural resources (hereinafter "resources") are discovered during subsurface excavations at the Project Site, the following procedures apply:
- C. Owner will issue a "Cultural Resources Suspend Work Order" Directing Contractor to temporarily suspend all operations at the location of such potential resources.
- D. Such "Cultural Resources Suspend Work Order" will be effective until such time as a qualified Consultant can assess the value of such resources and make recommendations. Any "Cultural Resources – Suspend Work Order" will contain the following:
 - 1. A description of the potential resource, its location, and the area where Contractor's Work is suspended;
 - 2. A description of what part or all of Contractor's Work is suspended;
 - 3. Instructions regarding suspension of orders by Contractor for materials and services;
 - 4. Guidance regarding action to be taken by Subcontractors;
 - 5. Estimated duration of the temporary suspension.
- E. If the Consultant determines that the potential find is indeed a cultural resource, Owner will, as expeditiously as possible, advise Contractor in writing of the action to be taken regarding the find, and the anticipated time frame and extent of any Work suspension.
- F. Adjustment of Contract Time and Contract Sum
 - If, in the approved Environmental Impact Report (EIR), the Work site was deemed "Archaeologically Sensitive", then the Contract Time(s) includes four (4) weeks of temporary suspension for cultural resources finds and there will be no payment for such suspension or any inefficiencies related thereto, up to a maximum cumulative duration of four (4) weeks delay to the Critical Path(s) of the Official Progress Schedule. If such suspension occurs, the first four (4) weeks of the Critical Path delay will be treated as an *excusable non-compensable delay* and the Contract Time will be extended in accordance with Document 00 7200.14.02 "Time Allowances."
 - 2. If a cultural discovery at an Archaeologically Sensitive site results in a cumulative Critical Path delay that exceeds four (4) weeks, then Contractor will be entitled to an adjustment of the Contract for the Critical Path delay in excess of four (4) weeks. The Critical Path delay in excess of four (4) weeks will be treated as an *excusable compensable delay* and the Contract Time will be extended in accordance with Document 00 7200.14.02 "Time Allowances."
 - 3. If a cultural resource discovery was unforeseen (i.e. if the Work site was not deemed "Archaeologically Sensitive" in the EIR), Contractor may be entitled to an adjustment of the Contract in accordance with Document 00 7200.14.02 "Time Allowances."
 - 4. If, as a result of a temporary suspension, Owner agrees that Contractor sustains a loss which could not have been avoided by judicious handling of its forces or equipment, or by redirection of forces or equipment to perform other Work on the Contract, Contractor will be paid for idle time of equipment and labor by Force Account as provided in Document 00 7200.14.01 "Alterations, Modifications and Force Account Work."
- G. Documentation
 - Beginning with the first Day of suspension, and for each following Day, Contractor must maintain detailed hourly records of the labor and equipment idled by such suspension, plus substantiation as to why such labor and equipment could not be used on other parts of the Work if such were the case. Such records must be of a form acceptable to Owner, signed by Contractor, and are subject to verification by Owner.
- H. Failure by Contractor to furnish the aforesaid records constitutes a waiver of Contractor's right to an adjustment in the Contract Sum.

END OF DOCUMENT 01 1000

DOCUMENT 01 1000

<u>APPENDIX A</u>

General Contractor's Fee (Proposal and Cost Item 2)

Cost Item 2 (GENERAL CONTRACTOR Fee) compensates GENERAL CONTRACTOR for:

- 1. All GENERAL CONTRACTOR profit;
- 2. All GENERAL CONTRACTOR home-office overhead and expenses; and
- 3. All GENERAL CONTRACTOR assumption of risk assigned to GENERAL CONTRACTOR under the Contract Documents.

Compensation for profit includes without limitation:

- 1. Fees of all types, nature and description; and
- 2. Profit and margins of all types, nature and description.

Compensation for home office overhead and expenses includes without limitation:

- All direct and indirect operating, maintenance and overhead costs of any nature whatsoever incurred by GENERAL CONTRACTOR at any location other than the Project specific site office(s), including but not limited to GENERAL CONTRACTOR's principal or branch offices, including without limitation:
 - (a) office space;
 - (b) furniture and equipment;
 - (c) leasing and rental costs;
 - (d) maintenance;
 - (e) supplies, equipment, and machinery;
 - (f) phone systems, computer systems and data systems;
 - (g) rent and utilities; and
 - (h) personnel training of any kind.
- Salaries and other compensation of GENERAL CONTRACTOR's personnel (management, administrative and clerical) incurred by GENERAL CONTRACTOR at any location other than the Project specific site office(s), including without limitation, GENERAL CONTRACTOR's principal or branch offices
- 3. GENERAL CONTRACTOR's capital expenses, including interest on GENERAL CONTRACTOR's capital employed for the Work.
- 4. Accounting and audit activity of any type, including without limitation, tax preparation, payroll calculations and distribution.
- 5. All costs incurred by GENERAL CONTRACTOR for bonuses, stock options, profit sharing arrangements and similar incentive programs.
- 6. Travel.
- 7. Safety programs.
- 8. Storage of materials, electronic or in hard copy.
- 9. Estimating that is not specifically related to this Project.
- 10. All corporate safety and quality control/quality assurance personnel and development of all corporate safety and quality control/quality assurance programs.
- 11. All Home Office travel expenses.
- 12. All insurance premiums other than those included under Proposal and Cost Items 3, 4, 5 and 7.
- 13. All hardware, software, supplies and support personnel necessary or convenient for GENERAL CONTRACTOR's capture, documentation and maintenance of its costs and cost accounting data and cost accounting and control systems and work progress reporting, and all associated files and records, and for response to and support of any and all Owner audit requests, all as provided elsewhere within Contract Documents.
- 14. All supervision of insurance and taxation matters.

- 15. All supervision of labor relations matter.
- 16. All storage of all materials and information required pursuant to Owner requirements for Project Billing, Cost Accounting, Documentation and Auditing.

Compensation for GENERAL CONTRACTOR's assumption of risk under Contract Documents, includes without limitation costs resulting from any of the following causes:

- Noncompliance with the Contract Documents or fault or negligence of GENERAL CONTRACTOR, any Subcontractor or Vendor of any tier or anyone directly or indirectly employed by any of them, or for whose acts or omissions any of them are responsible or liable at law or under the Contract Documents;
- Costs of repairing defective or non-conforming Work or Work damaged by GENERAL CONTRACTOR, Subcontractors of any tier, materialmen, anyone directly or indirectly employed by them, or for whose acts or omissions any of them are responsible or liable at law or under the Contract Documents;
- 3. Cost overruns of any type, including, but not limited to, costs in excess of any lump sum or not to exceed amount or GMP; costs resulting from Proposal or "buy out" errors, unallocated scope, or incomplete transfer of scope or contract terms to Trade Subcontractors.
- Any costs incurred by GENERAL CONTRACTOR relating to a Change in the Work without a Change Order or Change Directive in accordance with Document 01 2600 (Contract Modification Procedures);
- 5. All direct and indirect costs arising out of the fault or negligence of, or failure to comply with the terms of the Contract Documents or any Subcontracts, by GENERAL CONTRACTOR or any Subcontractor of any tier or anyone directly or indirectly employed by any of them, or for whose acts or omissions any of them are responsible or liable at law or under the Contract Documents;
- 6. Costs for work or materials not within any Proposal or Cost Item or for which no price is fixed in Contract Documents, unless it is expressly specified that such work or material is to be paid for as extra work.

Costs paid under this Cost Item may not include costs paid, incurred or included in any other Proposal or Cost Item, including without limitation any Work performed by a Trade Subcontractor.

END OF APPENDIX A

DOCUMENT 01 1000

APPENDIX B

General Cntractor's General Conditions (Proposal and Cost Item 3)

- A. Proposal and Cost Item 3 (GENERAL CONTRACTOR General Conditions) compensates GENERAL CONTRACTOR for:
 - GENERAL CONTRACTOR's direct costs, without overhead or profit, for salaries and related forms of compensation and employer's costs (including worker's compensation insurance and any other insurance required by law) for labor and personnel costs, of GENERAL CONTRACTOR's employees, while performing Work at the Project Site.
 - 2. GENERAL CONTRACTOR's costs of sub-consultant services.
- B. Personnel and Work compensated by this Proposal and Cost Item include without limitation:
 - 1. All required Project management responsibilities;
 - 2. All on-site services, reflected in the Staffing Plan or otherwise;
 - 3. Monthly reporting and scheduling;
 - 4. Routine field inspection of Work proposed;
 - 5. General Superintendence;
 - 6. General administration and preparation of cost proposals, schedule analysis, change orders and other supporting documentation as necessary;
 - 7. Salaries of project superintendent, project engineers, project managers, safety manager, other manager, timekeeper, and secretaries;
 - 8. All cost estimates and updates thereto
 - 9. Development, validation and updates to the project schedule
 - 10. Estimating; and
 - 11. Any other responsibilities continuing from the pre-construction phase to the construction phase following close out of pre-construction services.

Costs paid under this Proposal and Cost Item may not include costs paid, incurred or included in any other Proposal or Cost Item, including without limitation any item included in Cost Item 4 (GENERAL CONTRACTOR's General Requirements) or any Work performed by a Trade Subcontractor. In the event of duplication, the Contract Price will be reduced by the amount of duplication.

END OF APPENDIX B

DOCUMENT 01 1000

APPENDIX C

General Contractor General Requirements (Proposal and Cost Item 4)

- A. Proposal and Cost Item 4 (GENERAL CONTRACTOR General Requirements) compensates GENERAL CONTRACTOR for all Project general requirements costs.
- B. Project general requirements costs compensated by this Proposal and Cost Item include without limitation:
 - 1. All scheduling hardware, software, licenses, equipment, materials and supplies.
 - Purchase, lease or rental, build out, procurement and maintenance of temporary on-Site facilities, Project field and office trailers and other office trailer associated temporary facilities, including without limitation. (Assume two (2) 12'x60' trailers for 24 months), including without limitation:
 - (a) Offices
 - (b) Telephones
 - (c) Plumbing
 - (d) Electrical: Power, lighting
 - (e) Office equipment of any types
 - (f) Information management systems
 - (g) Platforms
 - (h) Fencing, etc.
 - (i) Water
 - (j) Housekeeping
 - All Project Site office equipment, material and supplies of all types, and all software therefore, including without limitation, computers, printers, plotters, copiers, FAX machines, audiovisual equipment, and kitchen supplies and equipment.
 - 4. Supplies, Office Equipment, Vehicles, for:
 - (a) All electronic media, blueprints and reproductions.
 - (b) All materials, equipment and supplies used for GENERAL CONTRACTOR's capture and/or management of any Project information.
 - (c) All shop drawings, submittals and similar depictions of intended work.
 - (d) All communication and/or computer network setup, and usage.
 - (e) All repair and maintenance of any item, equipment or component listed in this paragraph.
 - (f) All Project site office cleaning services.
 - (g) All GENERAL CONTRACTOR's motor vehicles used by any GENERAL CONTRACTOR's personnel and all operating costs thereof, including without limitation, fuel, license, insurance, maintenance and depreciation.
 - (h) All safety supplies and equipment.
 - (i) All preparation, production and provision of any operation and/or maintenance manuals and any other closeout papers or materials.
 - (j) All postage.
 - (k) Procurement and use of vehicles and fuel used coincidentally in Work otherwise included in the Contract Documents.
 - (I) Health and safety requirements of GENERAL CONTRACTOR Personnel, required by law or Owner procedures, GENERAL CONTRACTOR safety plan or insurance requirements.
 - (m) All travel, entertainment, lodging, board and the like.
 - 5. All (non-personnel costs) of preparation, production and provision of as-built and record drawings.
 - 6. Surveying
 - 7. Protection of Work
 - 8. Handling and disposal fees

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- 9. Daily and final cleanup
- 10. Repair or maintenance of any item listed herein
- 11. Other incidental Work
- 12. All items, activities and function similar to any of those described above.
- 13. All travel, entertainment, lodging, board and the like.
- C. Costs paid under this Proposal and Cost Item may not include costs paid, incurred or included in any other Proposal or Cost Item, including without limitation any including without limitation any item included in Cost Item 3 (GENERAL CONTRACTOR's General Conditions) or any Work performed by a Trade Subcontractor. In the event of duplication, the Contract Price will be reduced by the amount of duplication.
- D. <u>Exclusions</u>. Notwithstanding any other provision of this Appendix B, costs under this Cost Item shall <u>not</u> include any of the following, which shall be included within the appropriate Trade Subcontractor package(s) and Cost Item 5: Costs of Trade Subcontractor bonds, insurance and taxes with respect to the Trade Subcontractor work.
- E. See also Document 00 4001 Proposal Price Form Appendix B for the determination of pricing for General requirement items under GR 1 and GR 2.

END OF APPENDIX C

DOCUMENT 01 1000

APPENDIX D

Bonds, Insurance and Taxes Requirements (Proposal and Cost Item 7)

- A. Proposal and Cost Item 7 compensates GENERAL CONTRACTOR for bonds, insurance and taxes
- B. Bonds, insurance and taxes compensated by this Proposal and Cost Item include without limitation:
 - 1. All bonds required to be obtained by GENERAL CONTRACTOR under Contract Documents, including without limitation Document 00 6113.12 (Construction Performance Bond) (if required) and Document 00 6113.18 (Construction Labor and Material Payment Bond), including all increases to those Bonds following assignment and novation of Trade Subcontracts.
 - All insurance required to be maintained by GENERAL CONTRACTOR under Contract Documents, including without limitation all insurance required by Document 00 7311 (Indemnification and Insurance), excluding only worker's compensation insurance and any other insurance within the scope of Proposal and Cost Item 3.
 - 3. All taxes, including without limitation all sales and use taxes.

END OF APPENDIX D

END OF DOCUMENT 01 1000

DOCUMENT 01 2600

CONTRACT MODIFICATION PROCEDURES

ARTICLE I – GENERAL

1.01. Summary

- A. Document includes:
- Description of general procedural requirements for alterations, modifications, and extras.
 Reference
 - 1. Public Contract Code Section 7105(d)(2).

1.02. General

- A. Any change in scope of Work or deviation from Contract Documents including, without limitation, extra work, or alterations or additions to or deductions from the original Work, shall not invalidate the original Contract, and shall be performed under the terms of the Contract Documents.
- B. [Not Used]
- C. Only Owner may authorize changes in scope of Work or deviation from Contract Documents. (See also paragraph 1.03.A.).
 - 1. GENERAL CONTRACTOR may initiate changes by submitting a Change Order Request (COR), Notice of Concealed or Unknown Conditions, or Notice of Hazardous Waste Conditions, accompanied by a Cost Proposal (see paragraph 1.03.A).
 - a. A COR shall be submitted to request changes in the Contract Documents.
 - b. Notices of Differing Site Conditions shall be submitted in accordance with Document 00 7200 (General Conditions).
 - 2. GENERAL CONTRACTOR shall submit RFI's for clarifications in the Contract Documents.
 - 3. Owner may initiate changes by issuing an Instruction Bulletin (**IB**), Architectural Supplemental Instruction (**ASI**) or Amended Contract Document (**ACD**), which may revise, add to or subtract from the Work.
 - 4. Owner may initiate changes in the Work or Contract Time by issuing a Request for Proposal (**RFP**).
 - 5. Owner may also, by Construction Change Directive (**CCD**), order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly. A CCD shall be used in the absence of total agreement on the terms of a Change Order and may, upon express written notice designating it as a CCD, consist of a Change Order executed by Owner only.

1.03. Procedures

- A. <u>Cost Proposal and Procedures</u>. Whenever GENERAL CONTRACTOR is required in this Document 01 2600 to prepare a Cost Proposal, and whenever GENERAL CONTRACTOR is entitled to submit a Cost Proposal and elects to do so, GENERAL CONTRACTOR shall prepare and submit to Owner for consideration a Cost Proposal using the form attached to this Document 01 2600. All Cost Proposals must contain a complete breakdown of costs of credits, deducts and extras; itemizing materials, labor, taxes, overhead and profit and any requested changes to Contract Time. All Subcontractor Work shall be so indicated. Individual entries on the Cost Proposal form shall be determined as provided in Paragraphs 1.04 and 1.05 of this Document 01 2600. After receipt of a Cost Proposal with a detailed breakdown, Owner will act promptly thereon.
 - 1. If Owner accepts a Cost Proposal, Owner will prepare Change Order for Owner and GENERAL CONTRACTOR signatures.
 - 2. If Cost Proposal is not acceptable to Owner because it does not agree with cost and/or time included in Cost Proposal, Owner will submit in a response what it believes to be a reasonable cost and/or adjustment, if any. Except as otherwise provided in this Document

01 2600, GENERAL CONTRACTOR shall have seven (7) Days in which to respond to Owner with a revised Cost Proposal.

- 3. When necessity to proceed with a change does not allow Owner sufficient time to conduct a proper check of a Cost Proposal (or revised Cost Proposal), Owner may order GENERAL CONTRACTOR to proceed on basis to be determined at earliest practical date.
- B. <u>Request for Information</u>. Whenever GENERAL CONTRACTOR requires information regarding the Project or Contract Documents, or receives a request for information from a Subcontractor, GENERAL CONTRACTOR may prepare and deliver an RFI to Owner. GENERAL CONTRACTOR shall use RFI format provided by Owner and Architect concurrently via email. GENERAL CONTRACTOR shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI, indicating time within which a response is required. GENERAL CONTRACTOR's failure to reference RFI to an activity on the Progress Schedule and note time criticality on the RFI shall constitute GENERAL CONTRACTOR's waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI.
 - 1. GENERAL CONTRACTOR shall distribute response to all appropriate Subcontractors.
 - 2. If GENERAL CONTRACTOR is satisfied with the response and does not request change in Contract Sum or Contract Time, then the response shall be executed without a change.
 - 3. If GENERAL CONTRACTOR believes the response is incomplete, GENERAL CONTRACTOR shall issue another RFI (with the same RFI number with the letter "A" indicating it is a follow-up RFI) to Owner clarifying original RFI. Additionally, Owner may return RFI requesting additional information should original RFI be inadequate in describing condition.
 - 4. If GENERAL CONTRACTOR believes that the response results in change in Contract Sum or Contract Time, GENERAL CONTRACTOR shall notify Owner with the issuance of a COR. If Owner disagrees with GENERAL CONTRACTOR, then GENERAL CONTRACTOR may give notice of intent to submit a Claim as provided in Article XII of Document 00 7200 (General Conditions), and submit its Claim as provided therein. If Owner agrees with GENERAL CONTRACTOR, or otherwise wishes GENERAL CONTRACTOR to submit a Cost Proposal, then GENERAL CONTRACTOR must submit a Cost Proposal to the Owner. GENERAL CONTRACTOR's failure to deliver either the foregoing notice and Claim or Cost Proposal by the respective deadlines stated in the foregoing sentences shall result in waiver of the right to file a Cost Proposal or Claim.
 - 5. GENERAL CONTRACTOR shall be responsible for its costs to implement and administer RFIs throughout the Contract duration. Regardless of the number of RFIs submitted, GENERAL CONTRACTOR shall not be entitled to additional compensation for the effort required to submit the RFIs. GENERAL CONTRACTOR shall be responsible for both Owner and its Architects'/Engineers' administrative costs for answering RFIs where the answer could reasonably be found by reviewing the Contract Documents, as determined by Owner; at Owner discretion, such costs may be deducted from progress payments or final payment.
- C. <u>Supplemental Instruction or Field Modification</u>. Owner may issue an Architectural Supplemental Instruction (**ASI**) or Amended Contract Document (**ACD**) (also called Field Modification) to GENERAL CONTRACTOR.
 - 1. If GENERAL CONTRACTOR is satisfied with Supplemental Instruction and does not request change in Contract Sum or Contract Time, then Supplemental Instruction shall be executed without a Change Order.
 - 2. If GENERAL CONTRACTOR believes that Supplemental Instruction results in change in Contract Sum or Contract Time, then GENERAL CONTRACTOR must submit a COR and Cost Proposal to Owner at a time established by Owner.
- D. <u>Construction Change Directives</u>. If at any time Owner believes in good faith that a timely Change Order will not be agreed upon using the foregoing procedures, Owner may issue a CCD with its recommended cost and/or time adjustment. Upon receipt of CCD, GENERAL CONTRACTOR shall promptly proceed with the change of Work involved and concurrently

respond to Owner's CCD at a time established by Owner.

- 1. GENERAL CONTRACTOR's response must be any one of following:
 - a. Return CCD signed, thereby accepting Owner response, time and cost.
 - b. Submit a (revised if applicable) Cost Proposal with supporting documentation (if applicable, reference original Cost Proposal number followed by letter A, B, etc. for each revision), if Owner so requests.
 - c. Give notice of intent to submit a claim as described in Article XII of Document 00 7200 (General Conditions), and submit its claim as provided therein.
- 2. If the CCD provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:
 - a. Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
 - b. Cost to be determined in a manner agreed.
- 3. CCD signed by GENERAL CONTRACTOR indicates the agreement of GENERAL CONTRACTOR therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.
- 4. If GENERAL CONTRACTOR does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the method and the adjustment shall be determined by Owner on the basis of reasonable expenditures and savings of those performing the Work attributable to the change including, in case of an increase in the Contract Sum, a reasonable allowance for overhead and profit. If the parties still do not agree on the price for a CCD, GENERAL CONTRACTOR may file a Claim per Article XII of Document 00 7200 (General Conditions). GENERAL CONTRACTOR shall keep and present an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this paragraph shall be limited to those provided in paragraphs 1.4 and 1.5 of this Document 01 2600.
- 5. Pending final determination of cost to Owner, amounts not in dispute may be included in Applications for Payment. The amount of credit to be allowed by GENERAL CONTRACTOR to Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by Owner. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.
- E. <u>Owner Requested RFP</u>. Owner RFP will detail all proposed changes in the Work and request from GENERAL CONTRACTOR a Cost Proposal including proposed changes in Contract Sum and Contract Time from GENERAL CONTRACTOR. GENERAL CONTRACTOR shall furnish a Cost Proposal through to Owner at a time established by Owner. Upon approval of Cost Proposal, Owner will issue a Change Order directing GENERAL CONTRACTOR to proceed with extra Work. If the parties do not agree on the price or time for an RFP, Owner may either issue a CCD or decide the issue per Article XII of Document 00 7200 (General Conditions). GENERAL CONTRACTOR shall perform the changed Work notwithstanding any claims or disagreements of any nature.
- F. <u>Differing Site Conditions and/or Hazardous Waste Conditions</u>. GENERAL CONTRACTOR shall submit Notices of Differing Site Conditions and/or Hazardous Waste Conditions to resolve problems regarding differing underground Site conditions encountered in the execution of the Work pursuant to Article XIV of Document 00 7200 (General Conditions). If Owner determines that a change in Contract Sum or Contract Time is justified, Owner will issue RFP or CCD.

G. All Changes.

- 1. Documentation of Change in Contract Sum and Contract Time:
 - a. GENERAL CONTRACTOR shall document each proposal for a change in cost or time with sufficient data to allow evaluation of the proposal.
 - b. GENERAL CONTRACTOR shall, on request, provide additional data to support computations for:

- (i) Quantities of products, materials, labor and equipment.
- (ii) Taxes, insurance, and bonds.
- (iii) Overhead and profit.
- (iv) Justification for any change in Contract Time and new Progress Schedule showing revision due, if any.
- (v) Credit for deletions from Contract, similarly documented.
- c. GENERAL CONTRACTOR shall support each claim for additional cost, and for Work performed on a cost-and-percentage basis, with additional information including:
 - (i) Credit for deletions from Contract, similarly documented.
 - (ii) Origin and date of claim.
 - (iii) Dates and times Work was performed and by whom.
 - (iv) Time records and wage rates paid.
 - (v) Invoices and receipts for products, materials, equipment and subcontracts, similarly documented.
- H. Correlation of Other Items.
 - 1. GENERAL CONTRACTOR shall revise Schedule of Values and Application for Payment forms to record each authorized Change Order or CCD as a separate line item and adjust the Contract Sum as shown thereon prior to the next monthly pay period.
 - 2. GENERAL CONTRACTOR shall revise the Progress Schedules prior to the next monthly pay period.
 - 3. GENERAL CONTRACTOR shall enter changes in Project Record Documents prior to the next monthly pay period.
- I. <u>Responses</u>. For all responses for which the Contract Documents, including without limitation this Document 01 2600, do not provide a specific time period, recipients shall respond within a reasonable time.
- J. <u>Disputes</u>. For all disputes arising from the procedures herein, GENERAL CONTRACTOR shall follow Article XII of Document 00 7200.

1.04. Cost Determination

- A. <u>Total Cost of Extra Work or Work Omitted</u>. Total cost of extra Work or of Work omitted shall be the sum of actually incurred labor costs, material costs and equipment rental costs as defined herein plus overhead and profit markup as allowed herein. This limit applies in all cases of claims for extra Work, whether calculating Cost Proposals, Change Orders CCDs or any other Contract Modifications, or calculating claims of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. Neither GENERAL CONTRACTOR nor Subcontractors may recover any other costs arising out of or connected with the performance of extra Work, of any nature. No special, incidental or consequential damages may be claimed or recovered against Owner, its representatives or agents, whether arising from breach of contract, negligence or strict liability, unless specifically authorized in the Contract Documents.
- B. <u>Overhead and Profit Markup</u>. (Overhead and Profit shall be as defined in paragraph 1.8 of this Document 01 2600) Overhead and profit markup shall be a maximum of 20 percent of the total cost of extra Work, to be allocated between GENERAL CONTRACTOR and Subcontractors as GENERAL CONTRACTOR directs.
 - 1. Overhead and profit on labor for extra Work shall be 15 percent.
 - 2. Overhead and profit on materials for extra Work shall be 15 percent.
 - 3. Overhead and profit on equipment rental for extra Work shall be 15 percent.
 - 4. When extra Work is performed by a first tier Subcontractor, GENERAL CONTRACTOR shall receive a 5 percent markup on Subcontractors' total cost of extra Work. First tier Subcontractor's markup on its Work shall not exceed 15 percent.
 - 5. Notwithstanding the foregoing, in no case shall the total markup on any extra Work exceed 20 percent of the total cost of extra Work, regardless of the actual number of contract tiers.
- C. On Contract Modifications covering both extra Work and Work omitted, overhead and profit shall be allowed, and contingency shall be adjusted, on the net increase only to Direct Cost of Construction. When the net difference is a deletion, no percentage for overhead and profit, or

contingency, shall be allowed, but rather an appropriate percentage deduction shall be issued in the amount of the net difference.

- D. Overhead and profit markup shall include profit, small tools, cleanup, engineering, supervision, warranties, cost of preparing the cost proposal, jobsite overhead, home office overhead, and all amounts included within the definition thereof in paragraph 1.8 below. No markup will be allowed on taxes, insurance, and bonds.
- E. <u>Taxes</u>.
 - 1. All State sales and use taxes, County and applicable City sales taxes, shall be included.
 - 2. Federal and Excise tax shall not be included.
- F. <u>Subcontract-Operated Equipment</u>. When Subcontractor (of any tier)-operated equipment is used to perform extra Work, cost to Owner of operator shall be as follows:
 - 1. Payment for equipment will be made in accordance with paragraph 1.5.3 below.
 - 2. Payment for cost of labor will be made at no more than rates of such labor established by collective bargaining agreements for type of worker and location of Work, whether or not owner-operator is actually covered by such an agreement.
- G. <u>Accord and Satisfaction:</u> Every Change Order, Contract Modification and accepted CCD shall constitute a full accord and satisfaction, and release, of all GENERAL CONTRACTOR and Subcontractor claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay and any other type of claim. GENERAL CONTRACTOR may elect to reserve its rights to disputed claims arising from or relating to the changed Work at the time it signs a Change Order or approves a CCD, but must do so expressly in a writing delivered concurrently with the executed Change Order or approved CCD, and must also submit a Claim for the reserved disputed items pursuant to Article XII of Document 00 7200 no later than thirty (30) days of GENERAL CONTRACTOR's first written notice of its intent to reserve rights.

1.05. Cost Breakdown

- A. <u>Labor</u>. Cost of labor for Subcontractor workers (including forepersons when authorized by Owner) used in actual and direct performance of extra Work. Labor rate, whether employer is Subcontractor or other forces, will be sum of following:
 - 1. Actual Wages: Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation, and similar purposes.
 - 2. Labor surcharge: Payments imposed by local, county, state, and federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages as defined in paragraph 1.5.1(1) above, such as taxes and worker's compensation insurance. Such labor surcharge shall not exceed that set forth in California Department of Transportation official labor surcharges schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein.
- B. <u>Material</u>. Only materials furnished by Subcontractor and necessarily used in performance of extra Work will be paid for. Cost of such materials will be cost, including sales tax, to purchaser (Subcontractor or other forces) from supplier thereof, except as the following are applicable:
 - 1. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to Owner notwithstanding fact that such discount may not have been taken.
 - 2. For materials salvaged upon completion of extra Work, salvage value of materials shall be deducted from cost, less discounts, of materials.
 - 3. If cost of a material is, in opinion of Owner, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in paragraph 1.5.2(1) of this Document 01 2600.
- C. <u>Equipment Rental</u>. For Subcontractor-owned equipment, payment will be made at rental rates listed for equipment in California Department of Transportation official equipment rental rate schedule which is in effect on date upon which extra Work is accomplished and which schedule is incorporated herein by reference as though fully set forth herein. If there is no applicable

rate for an item of equipment, then payment shall be made for Subcontractor-owned equipment at rental rate listed in the most recent edition of the Association of Equipment Distributors (AED) book. For rented equipment, payment will be made based on actual rental invoices. Equipment used on extra Work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type, as determined by Owner. Rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of \$100 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.

- 1. For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra Work being performed or on standby as approved by Owner. The following shall be used in computing rental time of equipment:
 - a. When hourly rates are listed, less than 30 minutes of operation shall be considered to be $\frac{1}{2}$ hour of operation.
 - b. When daily rates are listed, less than four hours of operation shall be considered to be $\frac{1}{2}$ Day of operation.
- For equipment that must be brought to Site to be used exclusively on extra Work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:
 - a. Owner will pay for costs of loading and unloading equipment.
 - b. Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
 - c. Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission.
 - d. Owner will not make any payment for transporting and loading and unloading equipment if equipment is used on Work in any other way than upon extra Work.
- 3. Rental period may begin at time equipment is unloaded at Site of extra Work and terminate at end of the performance of the extra Work or Day on which Owner directs discontinuance of use of equipment, whichever first occurs. Excluding Saturdays, Sundays, and Owner legal holidays, unless equipment is used to perform extra Work on such Days, rental time to be paid per Day shall be four hours for zero hours of operation, six hours for four hours of operation and eight hours for eight hours of operation, time being prorated between these parameters. Hours to be paid for equipment that is operated less than eight hours due to breakdowns, shall not exceed eight less number of hours equipment is inoperative due to breakdowns.
- D. Work Performed by Special Forces or Other Special Services. When Owner and GENERAL CONTRACTOR, by agreement, determine that special service or item of extra Work cannot be performed by forces of any Subcontractors, service or extra Work item may be performed by specialist. Invoices for service or item of extra Work on basis of current market price thereof may be accepted without complete itemization of labor, material, and equipment rental costs when it is impracticable and not in accordance with established practice of special service industry to provide complete itemization. In those instances wherein Subcontractors are required to perform extra Work necessitating a fabrication or machining process in a fabrication or machine shop facility away from Site, charges for that portion of extra Work performed in such facility may, by agreement, be accepted as a specialist billing. Owner must be notified in advance of all off-Site Work. In lieu of overhead and profit provided in paragraph 1.4.2 of this Document 01 2600, 15 percent will be added to specialist invoice price, after deduction of any cash or trade discount offered or available, whether or not such discount may have been taken.

1.06. Force-Account Work

- A. If it is impracticable because of nature of Work, or for any other reason, to fix an increase or decrease in price definitely in advance, the GENERAL CONTRACTOR may be directed to proceed at a not-to-exceed (NTE) maximum price which shall not under any circumstances be exceeded. Subject to such limitation, such extra Work shall be paid for at actual necessary cost for Force-Account Work or at the negotiated cost, as determined by Owner. The cost for Force-Account Work shall be determined pursuant to paragraphs 1.04 and 1.05 of this Document 01 2600.
- B. Force-Account Work shall be used when it is not possible or practical to price out the changed Work prior to the start of that Work. In these cases, Force-Account Work will be utilized during the pricing and negotiation phase of the change. Once negotiations have been concluded and a bilateral agreement has been reached, the tracking of the Work under Force-Account is no longer necessary. Force-Account Work shall also be used when negotiations between Owner and GENERAL CONTRACTOR have reached an impasse and a bilateral agreement on the value of the changed Work cannot be reached. Owner may approve other uses of Force-Account Work.
- C. Whenever any Force-Account Work is in progress, definite price for which has not been agreed on in advance, GENERAL CONTRACTOR shall report to Owner each Business Day in writing in detail amount and cost of labor and material used, and any other expense incurred in Force-Account Work on preceding Day, by using the Cost Proposal form attached hereto. No claim for compensation for Force-Account Work will be allowed unless report shall have been made.
- D. Whenever Force-Account Work is in progress, definite price for which has not been agreed on in advance, GENERAL CONTRACTOR shall report to Owner when 75 percent of the NTE amount has been expended.
- E. Force-Account Work shall be paid as extra Work under this Document 01 2600. Methods of determining payment for Work and materials provided in this paragraph 1.06 shall not apply to performance of Work or furnishings of material that, in judgment of Owner, may properly be classified under items for which prices are otherwise established in Contract Documents.

1.07. Owner-Furnished Materials

A. Owner reserves right to furnish materials as it deems advisable, and GENERAL CONTRACTOR shall have no claims for costs and overhead and profit on such materials.

1.08. Overhead and Profit Defined

- A. The following constitutes charges that are deemed included in overhead and profit for all Contract Modifications, including Force-Account Work or CCD Work, whether incurred by GENERAL CONTRACTOR, Subcontractors, or suppliers, and neither GENERAL CONTRACTOR nor any Subcontractor may invoice or receive payment for these costs separately:
 - 1. Drawings and other printed documents: field drawings, Shop Drawings, etc., including submissions of drawings
 - 2. Routine field inspection of Work proposed
 - 3. General Superintendence
 - 4. General administration and preparation of cost proposals, schedule analysis, change orders and other supporting documentation as necessary
 - 5. Computer services
 - 6. Reproduction services
 - 7. Salaries of project Architect/Engineer, superintendent, timekeeper, storekeeper and secretaries
 - 8. Janitorial services
 - 9. Temporary on-Site facilities:
 - a. Offices
 - b. Telephones
 - c. Plumbing
 - d. Electrical: Power, lighting
 - e. Platforms

- f. Fencing, etc.
- g. Water
- 10. Home office expenses
- 11. Insurance, Bond premiums and Taxes
- 12. Commissions
- 13. Procurement and use of vehicles and fuel used coincidentally in Work otherwise included in the Contract Documents
- 14. Surveying
- 15. Estimating
- 16. Protection of Work
- 17. Handling and disposal fees
- 18. Final cleanup
- 19. Other incidental Work
- 20. All amounts for items in Bid Items 3 and 4 as described in Document 01 1000 (Summary of Work).

1.09. Records And Certification

- A. Force-Account (cost reimbursement) charges shall be recorded daily and summarized in Cost Proposal form attached hereto. GENERAL CONTRACTOR or authorized representative shall complete and sign form each day. GENERAL CONTRACTOR shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; a list by size type and identification number of equipment and hours operated; and an indication of all Work performed by specialists.
- B. No payment for Force-Account Work shall be made until GENERAL CONTRACTOR submits original invoices substantiating materials and specialist's charges.
- C. Owner shall have the right to audit all records in possession of GENERAL CONTRACTOR relating to activities covered by GENERAL CONTRACTOR's claims for modification of Contract, including Force-Account Work and CCD Work.
- D. Further, Owner will have right to audit, inspect, or copy all records maintained in connection with this Contract, including financial records, in possession of GENERAL CONTRACTOR relating to any transaction or activity occurring or arising out of, or by virtue of, the Contract. If GENERAL CONTRACTOR is a joint venture, right of Owner shall apply collaterally to same extent to records of joint venture sponsor, and of each individual joint venture member. This right shall be specifically enforceable, and any failure of GENERAL CONTRACTOR to voluntarily comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been subject to the Article XII of Document 00 7200.

ARTICLE II – PRODUCTS – NOT USED

ARTICLE III – EXECUTION – NOT USED

END OF DOCUMENT 00 2600

COST PROPOSAL FORM FOLLOWS ON NEXT PAGE

	COST PROPOSAL (CP)		
THE LATHROP HOUSE RELOCATION PROJECT CP Number:	Date:		
Contract Number: In Response To:	PED # oto		
To: COUNTY OF SAN MATEO	RFP #, etc.		
Attention:	Subject Ref. No:		
Telephone () []	Fax: () []		
From: [INSERT GENERAL CONTRACTOR'S NAME/ADDRESS]			

This Cost Proposal is in response to the above-referenced _____ [insert RFP, etc. as applicable]. Brief description of change(s): _____

ITEM DESCRIPTION	GENER	SUB 1	SUB 2	SUB 3	SUB 4	TOTAL	
	AL CONTR ACTOR		0022	0020	002 4		
Direct Labor Cost							
Material							
Equipment							
Total Cost of Extra Work							
GENERAL CONTRACTOR							
Self-Performing							
(Not to exceed 15% of total Cost of Extra Work)							
Subcontractor's Overhead &							
Profit on Labor, Materials &							
Equipment							
(Not to exceed 15% of total Cost of Extra Work)							
Overhead & Profit to GENERAL							
CONTRACTOR for							
Subcontractor's Work							
(Not to exceed 5% of total Cost of Extra							
Work)							
GRAND TOTAL							
REQUESTED CHANGE IN CONTRACT TIME (DAYS)							
By GENERAL CONTRACTOR:	Signature	1		Da	ate:		

END OF DOCUMENT 01 2600

DOCUMENT 01 2900

PAYMENT PROCEDURES

ARTICLE I – GENERAL

1.01. Summary

A. Document includes description of requirements and procedures for determining amount of Work performed and for obtaining payment for Work performed.

1.02. References

- A. California Public Contract Code
- B. Code of Civil Procedure
- C. Government Code

1.03. Scope of Work

A. Work under Contract Documents, or under any Bid Item, allowance, or alternate, shall include all labor, materials, taxes, transport, handling, storage, supervision, administration, and all other items necessary for the satisfactory completion of Work, whether or not expressly specified or indicated.

1.04. Determination of Quantities

A. Quantity of work to be paid for under any item for which a unit price is fixed in Contract Documents shall be number, as determined by Owner, of units of work satisfactorily completed in accordance with Contract Documents or as directed by Owner. Unless otherwise provided, determination of number of units of work so completed will be based, so far as practicable, on actual measurement or count within prescribed or ordered limits, and no payment will be made for work done outside of limits. Measurements and computations will be made by methods set forth in Contract Documents, including without limitation this Document 01 2900. If methods are not so set forth, measurements shall be made in any manner which Owner considers appropriate for class of Work measured (e.g., pre-assigned values, percentage completion, units completed or incremental milestones). Contractor must immediately inform Owner of any disputes regarding quantity measurements and shall immediately supply Owner with any documentation supporting the disputed measurements.

1.05. Scope of Payment

- A. Except as otherwise expressly stated in Document 01 1000 (Summary of Work), payment to Contractor at the unit price or other price fixed in Contract Documents for performing Work required under any item, or (if the Contract is on a single lump sum price basis) at the lump sum price fixed in the Contract Documents for performing all Work required under Contract Documents, and as either may be adjusted pursuant to any approved Change Order or Construction Change Directive, shall be full compensation for completing, in accordance with Contract Documents, all Work required under the item or under Contract Documents, and for all expense incurred by Contractor for any purpose in connection with the performance and completion of said Work, including all incidental work necessary for completion of the Work.
- B. The Contract Sum, whether lump sum, unit price or otherwise, shall be deemed to include all costs necessary to complete required Work, all costs (if any) for loss or damage arising from nature of Work or prosecution of the Work, and from action of elements. Unless Contract Documents expressly provide otherwise, the Contract Sum shall be deemed to include:
 - 1. Any and all costs arising from any unforeseen difficulties which may be encountered during, and all risks of any description connected with, prosecution of Work or prosecution of Bid Item (whether lump sum or unit price) until acceptance by Owner;
 - 2. All expenses incurred due to suspension, or discontinuance of Work or discontinuance of Bid Item (whether lump sum or unit price) as provided in Contract Documents;
 - 3. Escalation to allow for cost increases between time of Contract Award and completion of Work or completion of Bid Item (whether lump sum or unit price).

- C. Whenever it is specified herein that Contractor is to do work or furnish materials of any class for which no price is fixed in Contract Documents, it shall be understood that Contractor is to do such work or furnish such materials without extra charge or allowance or direct payment of any sort, and that cost of doing work or furnishing materials is to be included in price Bid, unless it is expressly specified herein, in particular cases, that work or material is to be paid for as extra work.
- D. No payment shall be made for materials or equipment not yet incorporated into the Work, except as specified in Document 01 1000 (Summary of Work) or as may be agreed to by Owner in its sole discretion.
- E. Where Contractor requests payment on the basis of materials and equipment not incorporated in the Work, Contractor must satisfy the following conditions:
 - 1. The materials and/or equipment shall be delivered and suitably stored at the Site or at another local location agreed to in writing, for example, a mutually acceptable bonded and insured warehouse;
 - 2. Full title to the materials and/or equipment shall vest in Owner at the time of delivery to the Site, warehouse or other storage location;
 - 3. Obtain a negotiable warehouse receipt, endorsed over to Owner for materials and/or equipment stored in an off-site warehouse. No payment will be made until such endorsed receipts are delivered to Owner;
 - 4. Stockpiled materials and/or equipment shall be available for Owner inspection, but Owner shall have no obligation to inspect them and its inspection or failure to inspect shall not relieve Contractor of any obligations under the Contract Documents. Materials and/or equipment shall be segregated and labeled or tagged to identify these specific Contract Documents;
 - 5. After delivery of materials and/or equipment, if any inherent or acquired defects are discovered, defective materials and/or equipment shall be removed and replaced with suitable materials and/or equipment at Contractor's expense;
 - 6. At Contractor's expense, insure the materials and/or equipment against theft, fire, flood, vandalism, and malicious mischief, as well as any other coverages required under the Contract Documents;
 - 7. Contractor's Application for Payment shall be accompanied by a bill of sale, invoice or other documentation warranting that Owner has received the materials and equipment free and clear of all liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect Owner interest therein, all of which must be satisfactory to Owner. This documentation shall include, but not be limited to, conditional releases of mechanics' liens and stop notices from all those providing materials and equipment as to which the Application for Payment relates, as well as unconditional releases of the same from the same as to the previous Application for Payment for which they have not already been provided.
- F. Amounts previously paid for materials and equipment prior to incorporation into the Work shall be deducted from amounts otherwise due Contractor as they are incorporated.
- G. Nothing in the Contract Documents shall be construed as vesting in Contractor any right of property ownership in the materials used in the Work after they have been attached or affixed to the Work or the soil, or after payment has been made for ninety percent (90%) of the value of materials delivered to the site of the Work, or stored subject to or within the control of Owner. All such materials become the property of Owner upon being so attached or affixed or upon payment of ninety percent (90%) of the value of material delivered to the Work site or stored subject to or within the Owner's control.

1.06. Basis of Payment

- A. Unit Price Quantities: When estimated quantity for specific portions of Work is listed in Proposal Form, quantity of Work to be paid for shall be actual number of units satisfactorily completed, as determined by Owner and certified by Contractor, in accordance with Contract Documents.
- B. Lump Sum: When estimated quantity for specific portion of Work is not indicated and unit is designated as lump sum, payment will be on a lump sum basis for Work satisfactorily completed in accordance with Contract Documents.
- C. Allowances: Allowance items (if any) will be paid as provided in Document 01 1000 (Summary of Work). Funds authorized for Allowance Work will not be released for Contract payments unless Owner has authorized Allowance Work in writing.
- D. Owner does not expressly, or by implication, agree, warrant, or represent in any manner, that actual

amount of Work will correspond with amount shown or estimated and reserves right to increase or decrease amount of any class or portion of Work, to leave out entire Work item or items, or to add Work not originally included in Contract Documents, when in its judgment such change is in best interest of Owner. No change in Work shall be considered a waiver of any other condition of Contract Documents. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as otherwise expressly provided for in Contract Documents, because of any differences between amount of Work actually done and estimated amount as set forth herein, or for elimination of Work items.

1.07. Progress Payments

- A. If requested by Contractor, progress payments will be made monthly.
- B. <u>Schedule of Values</u>.
 - 1. Within twenty (20) Days from issuance of Notice of Award and prior to Contractor's first Application for Payment, submit a detailed breakdown of its Bid by Permit/Bid Items, scheduled Work items and/or activities, including coordination responsibilities and Project Record Documents responsibilities (Schedule of Values). Where more than one Subcontractor comprises the work of a Work item or activity, the Schedule of Values shall show a separate line item for each subcontract. Categorize items per CSI MasterFormat 2004 Division format established in Table of Contents, identifying each line item by number and title of respective Specification Sections. Furnish such breakdown of the total Contract Sum by assigning dollar values (cost estimates) to each applicable Progress Schedule network activity, which cumulative sum equals the total Contract Sum. The Schedule of Values shall contain Owner's name, the Project's name, number and location, Contractor's name and address and date, and shall be in a format and contain such detail as may be directed by Owner to facilitate and clarify future progress payments to Contractor for direct Work under Contract Documents.
 - 2. Contractor's overhead, profit, insurance, cost of bonds (except to the extent expressly identified in a Bid Item) and/or other financing, as well as "general conditions costs," (e.g., Site cleanup and maintenance, temporary roads and access, off-site access roads, temporary power and lighting, security, and the like), shall be identified as separate line items (and shall not be prorated through all activities) so that the sum of all the Schedule of Values line items equals Contractor's total Contract Sum, less any allowances designated by Owner. Scheduling, record documents and quality assurance control shall be separate line items.
 - 3. Owner will review the breakdown in conjunction with the Progress Schedule to ensure that the dollar amounts of this Schedule of Values are, in fact, fair market cost allocations for the Work items listed. Upon favorable review by Owner, Owner will accept this Schedule of Values for use. Owner shall be the sole judge of fair market cost allocations.
 - 4. Owner will reject any attempt to increase the cost of early activities, i.e., "front loading," resulting in an inaccurate reallocation of moneys until such "front loading" is corrected. Repeated attempts at "front loading" may result in suspension or termination of the Work for default, or refusal to process progress payments until such time as the Schedule of Values is acceptable to Owner.
- C. <u>Applications for Payment</u>. Contractor shall establish and maintain records of cost of the Work in accordance with generally accepted accounting practices. In addition:
 - 1. On or before the 22nd day of each month, Contractor shall submit to Owner a marked up copy of an Application for Payment for the cost of the Work put in place during the period of the current month. This marked up copy of percentages complete will allow Owner and the Project Inspector to inspect and confirm these percentages. Owner will then return the results of its review to the Contractor so it can prepare its monthly billing in time for the Schedule update/payment meeting as noted in Document 01 3100 (Project Management and Coordination). The agreed Application for Payment shall be for the total value of activities completed or partially completed, including approved activity costs, based upon Schedule of Values prices (or Bid item prices if unit price) of all labor and materials incorporated in the Work up until midnight of the 25th Day of that one month period, less the aggregate of previous payments. Accumulated retainage shall be shown as a separate item in payment summary. Contractor shall submit in a form acceptable to Owner and the price of the tot owner and the Work up until midnight of the 25th Day of that one month period, less the aggregate of previous payments. Accumulated retainage shall be shown as a separate item in payment summary.

itemized cost breakdown of Contractor's record of Cost of the Work, together with supporting data and any certification required by Owner. If Contractor is late submitting its Application for Payment (or the preliminary marked up Application for Payment), the Application may be processed at any time during the succeeding one-month period, resulting in processing of Contractor's Application for Payment being delayed for more than a Day for Day basis.

- 2. Applications for Payment may include, but are not necessarily limited to the following:
 - a. Material, equipment, and labor incorporated into the Work, less any previous payments for the same;
 - b. Up to 75 percent of the cost of equipment identified in paragraph 1.05.E. of this Document 01 2900 (if any), if purchased and delivered to the Site or stored off Site, as may be approved by Owner.
 - c. Up to 50 percent of the cost of materials identified in paragraph 1.05.E. of this Document 01 2900 (if any), specifically fabricated for the Project that are not yet incorporated into the Work.
- 3. Concurrently with each Application for Payment, or as otherwise provided in Contract Documents, Contractor shall submit Contractor and its Subcontractors' certified payroll records required to be maintained pursuant to Labor Code section 1776 for all labor performed during pay periods ending during the period covered by the Application for Payment. All such submissions shall be in such form (including without limitation hard copy or electronic) as provided in Contract Documents or as Owner may request.
- 4. At the time any Application for Payment is submitted, Contractor shall certify in writing the accuracy of the Application and that Contractor has fulfilled all scheduling requirements of Document 00 7200 (General Conditions) and Document 01 3200 (Construction Progress Documentation), including updates and revisions. A responsible officer of Contractor shall execute the certification.
- 5. Payment Applications must be accompanied by all (if any) documentation required by Owner.
- 6. If Contractor fails to timely deliver any of the following items, Owner may in its sole discretion, withhold five percent (5%) of each Application for Payment unless and until received:
 - a. All required monthly progress schedule update information required by Contract Documents (including without limitation Document 01 3200 Construction Progress Documentation).
 - b. All Project Record Document submittals required by the Contract Documents (including without limitation Document 01 7800 Closeout Submittals).
- 7. Each Application for Payment shall list each Change Order and Construction Change Directive (CCD) executed prior to date of submission, including the Change Order/CCD Number, and a description of the work activities, consistent with the descriptions of original work activities. Submit a monthly Change Order/CCD status log to Owner.
- 8. Contractor shall maintain consistency with previous approved Applications for Payment.
- If Owner requires substantiating data, submit information requested by Owner, with cover letter identifying Project, Application for Payment number and date, and detailed list of enclosures. Submit one copy of substantiating data and cover letter for each copy of Application for Payment submitted.
- 10. If Contractor fails or refuses to participate in work reconciliations or other construction progress evaluation with Owner, Contractor shall not receive current payment until Contractor has participated fully in providing construction progress information and schedule update information to Owner.
- D. <u>Progress Payments</u>.
 - Owner will review Contractor's Application for Payment following receipt. If adjustments need to be made to percent of completion of each activity, Owner will make appropriate notations and return to Contractor. Contractor shall revise and resubmit. All parties shall update percentage of completion values in the same manner, i.e., express value of an accumulated percentage of completion to date.
 - 2. Each Application for Payment may be reviewed by Owner and/or inspectors to determine whether the Application for Payment is proper, and shall be rejected, revised, or approved by Owner pursuant to the Schedule of Values prepared in accordance with paragraph 1.07.B. of this Document 01 2900.

- 3. If it is determined that the Application for Payment is not proper and suitable for payment, Owner will return it to Contractor as soon as practicable, but no later than seven (7) Days after receipt, together with a document setting forth in writing the reasons why the Application for Payment is not proper. If Owner determines that portions of the Application for Payment are not proper or not due under the Contract Documents, then Owner may approve the other portions of the Application for Payment, and in the case of disputed items or defective Work not remedied, may withhold up to 150 percent of the disputed amount from the progress payment.
- 4. Pursuant to Public Contract Code section 20104.50, if Owner fails to make any progress payment within thirty (30) Days after receipt of an undisputed and properly submitted Application for Payment from Contractor, Owner shall pay interest to Contractor equivalent to the legal rates set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure. An Application for Payment is not considered undisputed until it has been reviewed and approved by Owner's PDU Director or Director's Designee. The 30-Day period shall be reduced by the number of Days by which Owner exceeds the seven-Day return requirement set forth herein.
- 5. As soon as practicable after approval of each Application for Payment for progress payments, Owner will pay to Contractor in manner provided by law, an amount equal to 95 percent of the amounts otherwise due as provided in the Contract Documents, or a lesser amount if so provided in Contract Documents, provided that payments may at any time be withheld if, in judgment of Owner, Work is not proceeding in accordance with Contract, or Contractor is not complying with requirements of Contract, or to comply with stop notices or to offset liquidated damages accruing or expected.
- 6. Before any progress payment or final payment is due or made, Contractor shall submit satisfactory evidence that Contractor is not delinquent in payments to employees, Subcontractors, suppliers, or creditors for labor and materials incorporated into Work. This specifically includes, without limitation, conditional lien release forms for the current progress payment and unconditional release forms for past progress payments. Owner also may elect in its sole discretion to pay progress payments by joint check to Contractor and each Subcontractor having an interest in that progress payment in such amount.
- 7. Owner reserves and shall have the right to withhold payment for any equipment and/or specifically fabricated materials that, in the sole judgment of Owner, are not adequately and properly protected against weather and/or damage prior to or following incorporation into the Work.
- 8. Granting of progress payment or payments by Owner, or receipt thereof by Contractor, shall not be understood as constituting in any sense acceptance of Work or of any portion thereof, and shall in no way lessen liability of Contractor to replace unsatisfactory work or material, though unsatisfactory character of work or material may have been apparent or detected at time payment was made.
- 9. When Owner shall charge sum of money against Contractor under any provision of Contract Documents, amount of charge shall be deducted and retained by Owner from amount of next succeeding progress payment or from any other monies due or that may become due Contractor under Contract. If, on completion or termination of Contract, such monies due Contractor are found insufficient to cover Owner charges against it, Owner shall have right to recover balance from Contractor or Sureties.
- E. <u>Retention Changes</u>.
 - 1. Following satisfactory and timely completion of the Work, following Contractor's request, Owner may, in its sole discretion, elect to do one or more of the following:
 - a. Notwithstanding paragraph 1.07.D.5 above, pay any or all subsequent Applications for Payment for progress payments at the rate of 95 percent of the amounts otherwise due.
 - b. Release to Contractor any retention otherwise held by Owner.
 - 2. Owner reserves the right to revoke any election under paragraph 1.07.D.5 above at any time.
 - 3. Nothing in this paragraph 1.07.D. shall lessen or diminish any Owner right or remedy, including without limitation Owner right to require Contractor to perform all Work within the time otherwise required in the Contract Documents.

1.08. Substitution of Securities in Lieu of Retention

- A. In <u>accordance</u> with the provisions of Public Contract Code section 22300, substitution of securities for any moneys withheld under Contract Documents to ensure performance is permitted under following conditions:
 - 1. At request and expense of Contractor, securities listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by Contractor and Owner which are equivalent to the amount withheld under retention provisions of Contract shall be deposited with Controller or with a state or federally chartered bank in California, as the escrow agent, who shall then pay such monies to Contractor. Upon satisfactory completion of Contract, securities shall be returned to Contractor.
 - 2. Alternatively, Contractor may request and Owner shall make payment of retentions earned directly to the escrow agent at the expense of Contractor. At the expense of Contractor, Contractor may direct the investment of the payments into securities and receive the interest earned on the investments upon the same terms provided for in this Document 01 2900 for securities deposited by Contractor. Upon satisfactory completion of Contract Documents, Contractor shall receive from escrow agent all securities, interest, and payments received by the escrow agent from Owner, pursuant to the terms of this Document 01 2900. Pay to each Subcontractor, not later than twenty (20) Days after receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each Subcontractor, on the amount of retention withheld to insure the performance of Contractor.
 - 3. Contractor shall be beneficial owner of securities substituted for monies withheld and shall receive any interest thereon.
 - 4. Enter into escrow agreement with Controller according to Document 00 6801 (Escrow Agreement for Security Deposit in Lieu of Retention), as authorized under Public Contract Code section 22300, specifying amount of securities to be deposited, terms and conditions of conversion to cash in case of default of Contractor, and termination of escrow upon completion of Contract Documents.
 - 5. Public Contract Code section 22300 is hereby incorporated in full by this reference.

1.09. Substantial Completion Payment

- A. Following issuance of Certificate of Substantial Completion, submit Application for Payment reflecting Certificates of Partial Substantial Completion (if any) issued previously for Owner occupancy of designated portions of Work.
- B. Required administrative actions and submittals that precede or coincide with this application include:
 - 1. Occupancy permits and similar approvals.
 - 2. Warranties and maintenance agreements (dated to commence on date of Substantial Completion).
 - 3. Test/adjust/balance records.
 - 4. Maintenance and training instructions and completion of training as required by the Contract Documents, including Document 01 8200 (Demonstration and Training).
 - 5. Meter readings.
 - 6. Start-up performance reports.
 - 7. Change-over information related to Owner's occupancy, use, operation, and maintenance.
 - 8. Advice on shifting insurance coverages.
 - 9. Final progress photographs.
 - 10. Comprehensive list of incomplete or non-complying Work (initial punch list).
 - 11. Any other items required by Document 01 7800 (Closeout Submittals)

1.10. Final Payment

A. As soon as practicable after all required Work is completed in accordance with Contract Documents, including commissioning, punch list, testing, record documents and Contractor maintenance after Final Acceptance, Owner will pay to Contractor, in manner provided by law, unpaid balance of Contract Sum of Work (including without limitation retentions), or whole Contract Sum of Work if no progress payment has been made, determined in accordance with terms of Contract Documents, less sums as may be lawfully retained under any provisions of Contract Documents or by law.

- B. Prior progress payments shall be subject to correction in the final payment. Owner determination of amount due as final payment shall be final and conclusive evidence of amount of Work performed by Contractor under Contract Documents and shall be full measure of compensation to be received by Contractor.
- C. Contractor and each assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment, and as a condition precedent to Owner obligation to make final payment, Document 00 6530 (Agreement and Release of Any and All Claims) discharging Owner, its officers, agents, employees, and consultants of and from liabilities, obligations, and claims arising under Contract Documents.

1.11. Effect of Payment

- A. Payment will be made by Owner, based on Owner observations at the Site and the data comprising the Application for Payment. Payment will not be a representation that Owner has:
 - 1. Made exhaustive or continuous on-Site inspections to check the quality or quantity of Work;
 - 2. Reviewed construction means, methods, techniques, sequences, or procedures;
 - 3. Reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by Owner to substantiate Contractor's right to payment; or
 - 4. Made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum.

1.12. Materials

- A. General Requirements
 - 1. Contractor must not purchase any materials, supplies, or equipment for the Work subject to any chattel mortgage or subject to a conditional sale or other agreement by which any interest therein or in any part thereof is retained by the seller or the Supplier.
 - 2. Contractor warrants free and clear title to all material, supplies, and equipment Installed or incorporated in the Work and agrees upon Completion of the Work to deliver the premises, together with all improvements and appurtenances constructed or placed thereon by Contractor, to Owner free from any claims, liens or charges of any kind. Contractor nor any person, firm, or corporation furnishing materials, labor or services for any Work has the right to place a lien upon the premises or any improvement or appurtenances therein.
 - 3. The provisions of this Document 01 2900.1.12 (General Requirements), must be inserted in all Subcontracts and material contracts and notice of its provisions must be provided to all persons furnishing material for the Work when no formal contract is entered into for such material.

ARTICLE II – PRODUCTS – NOT USED

ARTICLE III – EXECUTION – NOT USED

END OF DOCUMENT 01 2900

DOCUMENT 01 3100

PROJECT MANAGEMENT AND COORDINATION

ARTICLE I – GENERAL

1.01. Summary

- A. This Document includes:
 - 1. Article I General
 - a. 1.01 Summary
 - b. 1.02 Related Documents And Sections (Not Used)
 - c. 1.03 Definitions (Not Used)
 - d. 1.04 Coordination
 - e. 1.05 Pre-work Verification
 - f. 1.06 Administrative Actions
 - g. 1.07 Conservation
 - 2. Article II Products (Not Used)
 - 3. Article III Execution (Not Used)
 - 4. Article IV Forms (Not Used)

1.02. Related Documents And Sections (Not Used)

1.03. Definitions (Not Used)

1.04. Coordination

- A. Contractor must not delegate Contractor's responsibility for coordination of the Work to any Subcontractor.
- B. Contractor must provide a General Superintendent whose sole responsibility is administration of the Contractor's Work and the coordination of the Work of the Contractor's Subcontractors and suppliers.
- C. Contractor to financially compensate Owner for any originally-submitted Contractor's staff being removed from the Project without Owner's written authorization. Financial compensation is to be determined by Owner.
- D. Contractor must provide administrative and supervisory personnel as needed or required for timely compliance with all administrative requirements of the Contract Documents and proper coordination of the performance of the Work.
- E. Contractor must ensure that each Subcontractor provides personnel as reasonably required for management and coordination of the Subcontractor's Work and for coordination of the Subcontractor's Work with the Work of the entire Project.
- F. Contractor must coordinate the Work to ensure efficient and orderly installation of each part of the Work of the entire Project including but not limited to:
 - 1. Coordinating all aspects of the Work as required to provide the Owner with a complete and operable facility.
 - 2. Coordinating the Work with the work of other contractors and entities to ensure efficient and orderly installation of each part of the Work of the entire Project.
 - 3. Managing the Project Shut Down process between and among all subcontractors in accordance with Owner's policy, which requires ten (10) working days' notice and approval prior to any Shut Down.
 - 4. Coordinating installation of different components and systems of the Work to ensure maximum accessibility for required maintenance, service, and repair.
 - 5. Coordinating the Work included in different Sections of the Project Manual that depend on each other for proper installation, connection, and operation.
 - 6. Coordinating the Work of all Subcontractors and suppliers.
 - 7. Coordinating the Work in such a manner to avoid delays and permit proper and efficient installation of the Work by all Subcontractors.

- 8. Coordinating electrical/mechanical Work, particularly between general trades and mechanical/electrical trades, including the work of Owner and other contractors, so that sleeves, hangers, chases, openings, etc., required for pipe, conduit, and other installations of like character are duly and properly provided and installed as work progresses.
- 9. Coordinating all cutting, fitting and patching that may be required to make the parts of the Work come together properly for the completed Project as shown or as reasonably implied by the Contract Documents.
- 10. Coordinating for future installation of work by others that is not included in the Contractor's Work but is shown or specified in the Contract Documents.
- 11. Coordinating delivery of materials in accordance with the Official Progress Schedule
- 12. Coordinating and cooperating in the timing and sequencing of Contractor's Work with the work of other contractors or the Owner.
- 13. Sequencing the Work to obtain the best results where installation of one component of the Work depends on installation of other components, before or after its own installation.
- 14. Making adequate provisions to accommodate items scheduled for later installation by Contractor, Owner, or other contractors.
- 15. Checking the drawings of the Owner or other contractors for interferences with Contractor's Work and promptly reporting to Owner, in writing, any potential interferences between the Contractor's Work and the work of Owner or the work of other contractors.
- 16. Utilizing the Contract Documents and Owner accepted Submittals to check and coordinate the Work so that no interferences or conflicts between trades occur. This checking and coordination must be performed and completed before construction is commenced in each affected area and may require the preparation and submission of Coordination Drawings.
- 17. Furnishing to other contractors, whose work is fitted to Contractor's Work, Record Documents, Coordination Drawings, details, and erection drawings giving full information regarding the Fabrication, assembly, and installation of Contractor's Work.
- 18. Preparing memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings. Prepare similar memoranda for the Owner and separate contractors if coordination of their Work is required.
- 19. Resolving disputes between Subcontractors.

1.05. Pre-Work Verification

- A. Prior to starting a particular type or kind of Work:
 - 1. Review all Contract Documents and other relevant data related to the type or kind of Work to be performed;
 - 2. Check Owner accepted Submittals and verify dimensions at Project Site;
 - 3. Review manufacturers' instructions applicable to conditions under which Work is to be installed;
 - 4. Inspect areas, surfaces or construction receiving the Work; and
 - 5. Report to Owner in writing any concerns, issues, or problems observed during Contractor's Pre-Work verification at least five (5) working days before beginning the work on the Project.
- B. Start of Work shall signify compliance with the above requirements and acceptance of previously placed construction or substrates as being in satisfactory condition to achieve proper installations and first quality workmanship as intended under these Contract Documents. Failure to so inspect and report to Owner shall constitute an acceptance of the previously placed construction or substrates.

1.06. Administrative Actions

- A. Administrative actions include, but are not limited to, the following:
 - 1. Preparation, update, and revision of Contractor's Official Progress Schedule. (See Document 01 3200, Construction Progress Documentation.)
 - 2. Delivery and review of Submittals. (See Document 00 7200, Submittals.)

- 3. Project Meetings.
- 4. Project closeout activities. (See Document 01 7700, Closeout Procedures.)
- B. Coordinate timing of required administrative actions with construction activities and activities of Owner and other contractors to avoid conflicts and ensure orderly progress of the Work.

1.07. Conservation

- A. Coordinate Work to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
- B. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.
- ARTICLE II PRODUCTS (Not Used)

ARTICLE III - EXECUTION (Not Used)

ARTICLE IV - FORMS (Not Used)

END OF DOCUMENT 01 3100

SECTION 01 5400

SITE SECURITY AND SAFETY

ARTICLE I - GENERAL

1.01. Submittals

- A. See Document 01 3300 (Submittals)
- B. Site Security
- C. See Document 01 3400 (Safety Submittals)
- D. See Document 01 5250 (Fire Protection Plan)

1.02. Protection

- A. Contractor shall:
 - 1. Continuously maintain protection as necessary to protect the Work, as a whole and in part, and adjacent property and improvements from accidents, injuries or damage.
 - 2. Properly protect the Work:
 - a. With lights, guard rails, temporary covers and barricades.
 - b. Enclose excavations with proper barricades.
 - c. Brace and secure all parts of the Work against storm and accident.
 - d. Provide such additional forms of protection that may be necessary under existing circumstances.
 - 3. Provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the Work and to exclude unauthorized persons from the Work. When regulated by Building Codes, Cal OSHA, or other Authorities Having Jurisdiction, such legal requirements for protection shall be considered as minimum requirements. Be responsible for the protection in excess of such minimum requirements as required.

1.03. Control of Site

A. Contractor shall ensure that no alcohol, firearms, weapons, or controlled substance enters or is used at the Site. Immediately remove from the Site and terminate the employment of any employee found in violation of this provision.

1.04. Site Security

- A. As part of the Work included within the Contract Price, Contractor shall take and be fully responsible for all reasonably required measures to protect and maintain the security of persons, existing facilities and property at the Site, including without limitation preventing theft, loss, vandalism and improper concealment of personal property of Owner and all persons lawfully present on the Site, and including times where workers are not present on the Site. Contractor's measures shall include, at a minimum, maintaining a log of all persons entering and leaving the Site and who they represent, what they are delivering and to whom.
- B. No claim shall be made against Owner by reason of any act of an employee or trespasser, and Contractor shall repair all damage to Owner property resulting from Contractor's failure to provide adequate security measures.
- C. Contractor shall maintain a lock on the Construction access gate at all times. Contractor shall appoint one (1) person to let people through the gate and maintain the sign-in/out list, with person's name, company, reason for entering, what they are delivering, time and date. Alternatively, Contractor shall provide a full-time guard at the gate at all times to control access and maintain the sign-in/out list. The sign in/out list shall be available to Owner at any time upon request. If Owner determines that the gate has been left unlocked, Contractor shall, if requested by Owner, provide a full time guard at no additional expense to Owner.
- D. Contractor shall supply additional security fencing, barricades, lighting, and other security measures as required to protect and control the Site.

1.05. Safety Program

- A. See also Document 01 3400 (Safety Submittals)
- B. Within fifteen (15) days after Notice to Proceed, Contractor shall submit three (3) paper copies and an

electronic copy on a Flash Drive of the Safety Program and Site-Specific Safety Plan that has been reviewed by Owner. Contractor shall comply with the Safety Program and all applicable federal, state, and local regulation codes, rules, law and ordinances.

- C. Receipt and/or review of the Safety Program by Owner, Project Manager or Owner representative shall not relieve Contractor of any responsibility for complying with all applicable safety regulations.
- D. It is essential that Contractor and each Subcontractor implement an effective and vigorous Safety and Health Program to cover their respective portions of the Work. Subject to Contractor's overall responsibility for Project safety, it shall be understood that the full responsibility for providing a safe place to work with respect to their respective portions of the Work rests with each individual Contractor and Subcontractor.
- E. Safety Program components:
 - 1. Injury and Illness Prevention Program (IIPP): Conforming to the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 3203), and the California Labor Code (Section 6401.7).
 - Site-Specific Safety and Health Plan (SSHP): Describing health and safety procedures that shall be implemented during the Work in order to ensure safety of the public and those performing the Work. Follow the guidelines for a SSHP listed in CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5192, Item (b)(4) f.
 - 3. Confined Space Program: The Site contains permit- and non-permit-confined spaces, including shored trenches. Owner will provide Contractor with any available information regarding existing permit space hazards, entry operations, and safety information relating to Work in the existing permit spaces as set forth in the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5157). Permit space entry is allowed only through compliance with a permit space program meeting the requirements of Section 5157 of the General Industrial Safety Orders. During entry operations, or at the conclusion of entry operations, verbally notify Owner of the permit space program followed and of any hazards confronted or created in permit spaces during entry operations.
- F. The wearing of hard hats, safety vests, safety shoes, and eye protection shall be mandatory at all times for all personnel and visitors on Site. Contractor shall provide hard hats, safety vests, safety shoes and eye protection to properly equip all employees and have a sufficient supply (excluding shoes) to loan to visitors.
- G. Whenever an exposure exists, appropriate personal protective equipment (PPE) shall be used by all affected personnel. Contractor shall supply PPE to all personnel under Contractor's direction.

1.06. Safety Requirements

- A. Standards: Contractor shall maintain the Project in accordance with state and local safety and insurance standards.
- B. Hazards Control. Contractor shall:
 - 1. Store volatile wastes in covered metal containers and remove from premises daily.
 - 2. Prevent accumulation and immediately remove all wastes that create hazardous conditions.
 - 3. Provide adequate ventilation during use of volatile or noxious substances.
- C. Contractor shall conduct cleaning and disposal operations to comply with local ordinances and antipollution laws, and:
 - 1. Not burn or bury rubbish or waste material on the Site.
 - 2. Not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
 - 3. Not dispose of wastes into streams or waterways.
- D. Contractor shall provide accident information on the forms provided by Contractor. This information shall be provided on the same day as the occurrence of said incident.

1.07. Site Safety Officer

A. Contractor shall designate one of Contractor's staff as "Site Safety Officer" whose duties shall include the responsibility for enforcing the environmental protection provisions of the Contract Documents including safety and health, the requirements of the Occupational Safety and Health Act, and other applicable federal, state and local standards. Contractor shall submit for review by Owner, Contractor's intended traffic flow plan, security plan, program for temporary structures, housecleaning plan, demolition program, and environmental safety and health plan. After review by Owner, the implementation and enforcement of these plans shall become the responsibility of the Site Safety Officer. Any changes in the plans shall be requested by Contractor through the Site Safety Officer for written concurrence by Owner.

B. Owner risk management representative(s) shall be allowed access to accident/injury and illness reports, inspection reports, scheduling and construction meetings, and safety meetings.

1.08. Fire Protection Plan

- A. See also Document 01 5250 Fire Protection Plan
- B. Within fifteen (15) days after Notice to Proceed submit to the Owner three (3) paper copies and an electronic copy on a Flash Drive of a fire protection plan that has been reviewed and approved by all fire departments or agencies with territorial jurisdiction over the Site. It is recommended that the plan include, but not be limited to, a discussion of the following items:
 - 1. Equipment spark arresters
 - 2. Fire-extinguishing equipment on hand
 - 3. Method of operation in case of fire
 - 4. Notification to authorities of any fire
 - 5. Access available during performance of Work
 - 6. Educating workers of fire protection plan
 - 7. Storage protection for flammable materials
 - 8. Ventilation and illumination equipment

ARTICLE II – PRODUCTS - NOT USED

ARTICLE III – EXECUTION - NOT USED

END OF SECTION 01 5400

DOCUMENT 01 5700

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

ARTICLE I - GENERAL

1.01. Summary

- A. This Document includes:
 - 1. Article I General
 - a. 1.01 Summary
 - b. 1.02 Related Documents and Sections (Not Used)
 - c. 1.03 Definitions
 - d. 1.04 SWPPP Requirements
 - e. 1.05 Submittals
 - 2. Article II Products (Not Used)
 - 3. Article III Execution (Not Used)
 - 4. Article IV Forms (Not Used)

1.02. Related Documents and Sections (Not Used)

1.03. Definitions

- A. **NOI** Notice of Intent
- B. SWPPP Storm Water Pollution Prevention Plan
- C. **NOT** Notice of Termination
- D. NPDES National Pollutant Discharge Elimination System

1.04. SWPPP Requirements

- A. The project will comply with the NPDES General Construction Activity Storm Water Permit administered by the Regional Water Quality Control Board.
- B. Prior to construction grading for the proposed land uses, the Contractor will file a "Notice of Intent" (NOI) to comply with the General Permit.
- C. The Contractor must prepare and maintain for the entire construction period a Storm Water Pollution Prevention Plan (SWPPP) which addresses measures Contractor will implement to minimize and control construction and post-construction storm water runoff.
- D. At a minimum, the following measures must be included in the SWPPP:
 - 1. Burlap bags filled with drain rock will be installed around storm drains to route sediment and other debris away from the drains.
 - 2. Earthmoving or other dust-producing activities will be suspended during periods of high winds.
 - 3. All exposed or disturbed soil surfaces will be watered at least twice daily to control dust.
 - 4. Stockpiles of soil or other materials that can be blown by the wind will be watered or covered.
 - 5. All trucks hauling soil, sand, and other loose materials will be covered and maintain at least two feet of freeboard.
 - 6. Debris and recycling containers must remain covered when not in use.
 - 7. All paved access roads, parking areas, staging areas and residential streets adjacent to the construction sites will be swept daily (with water sweepers).
- E. Contractor must submit the SWPPP for approval as required for permitting prior to construction.
- F. The certified SWPPP must be available at the Project Site and must be updated to reflect current site conditions.
- G. When the construction phase is complete, Contractor must file a Notice of Termination (NOT) for the General Permit for Construction with the Regional Water Quality Control Board and applicable Governmental Agency. The NOT must document that all elements of the SWPPP have been executed, construction materials and waste have been properly disposed of, and a post-construction storm water management plan is in place as described in the SWPPP for the site. Submit the NOT to the Owner.

1.05. Submittals

- A. Submit the Storm Water Pollution Prevention Plan (SWPPP) in accordance with Section 01 3300, (Submittals).
- B. Submit required copies of the Notice of Termination (NOT) to the Owner.

ARTICLE II - PRODUCTS (NOT USED)

ARTICLE III - EXECUTION (NOT USED)

ARTICLE IV - FORMS (NOT USED)

END OF DOCUMENT 01 5700

DOCUMENT 01 7310

CUTTING AND PATCHING

ARTICLE I – GENERAL

1.01. Summary

- A. This Document includes:
 - 1. Article I General
 - a. 1.01 Summary
 - b. 1.02 Related Documents and Sections (Not Used)
 - c. 1.03 Definitions
 - d. 1.04 General
 - e. 1.05 Interface with Work of Others
 - f. 1.06 Submittals
 - g. 1.07 Quality Control
 - 2. Article II Products
 - a. 2.01 Materials
 - 3. Article III Execution
 - a. 3.01 Examination
 - b. 3.02 Preparation
 - c. 3.03 Cutting
 - d. 3.04 Patching
 - e. 3.05 Performance
 - 4. Article IV Forms (Not Used)

1.02. Related Documents and Sections (Not Used)

1.03. Definitions

- A. <u>Cutting-and-patching</u>. Includes, but is not necessarily limited to, demolition and repair of nominally completed and previously existing work in order to accommodate coordination of Work, installation of Work, uncovering Work for access or inspection, and to obtain samples for testing or similar purposes. It also includes integral cutting and patching during manufacturing, fabricating, erecting, and installing processes for individual items of the Work.
- B. <u>Hot Work</u>. Hot work includes any operations capable of initiating fires or explosions, including cutting, welding, brazing, soldering, grinding, thermal spraying, thawing pipe, torch applied roofing, sparking tools, or any other similar activity.

1.04. General

- A. Contractor is responsible for all cutting, fitting, or patching required to complete the Work and to make its parts fit together properly.
- B. Contractor must rework and patch to match existing surfaces at removed or demolished items.
- C. Patching must achieve security, strength, and weather protection, and must preserve continuity of existing fire ratings.
- D. Patching must successfully duplicate undisturbed adjacent finishes, colors, textures, and profiles. Where there is disagreement as to whether duplication is successful or has been achieved to a reasonable degree, the Owner's judgment shall be final.

1.05. Interface with Work of Others

- A. The Contractor is responsible for any and all cutting, fitting and patching required to join its Work with the work of others, except as otherwise specifically stated for in the Contract Documents.
- B. Contractor must not cut or otherwise alter the work of Owner or any separate contractor except with the written consent of Owner and such separate contractor.

C. Contractor must include interface flags in their Progress Schedule indicating points of interface of its Work with the work of others.

1.06. Submittals

- A. Comply with requirements of Document 00 7200 (General Conditions).
- B. Submit written request to Owner in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element of Project.
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Owner or separate contractor.
 - 6. Include in request:
 - a. Identification of Project.
 - b. Location and description of affected work.
 - c. Necessity for cutting or alteration.
 - d. Description of proposed Work and Products to be used.
 - e. Method for keeping existing utilities in service.
 - f. Alternatives to cutting and patching.
 - g. Date and time the Work will be executed.
 - h. Anticipated results in terms of variations from originally completed Work.
 - i. Where applicable include a description of circumstances which led to need for cutting and patching.
- A. Review by Owner or Design Professional prior to proceeding with proposed cutting-and-patching does not negate Owner's right to later require complete removal and replacement of Work found to be cut and patched in an unsatisfactory manner.
- B. Where cutting and patching involves addition of reinforcement to structural elements, obtain details and engineering calculations prepared by California Registered Structural Engineer indicating how reinforcement is to be integrated with the original structure.
- C. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out of service. Indicate how long utility service will be disrupted.

1.07. Quality Control

- A. <u>Requirements for Structural Work</u>.
 - 1. Do not cut and patch structural Work in manner resulting in reduction of load-carrying capacity or load/deflection ratio.
 - 2. Obtain Owner's written acceptance of Submittal before proceeding with cutting and patching of structural steel, structural concrete, foundation construction, basement or retaining walls, curtain walls, pressurized piping, vessels, and equipment.
- B. Operational and Safety Limitations.
 - 1. Do not cut and patch operational elements or safety-related components in manner resulting in reduction of capacities to perform as intended or resulting in decreased operational life, increased maintenance, or decreased safety.
 - 2. Obtain Owner's acceptance of Submittal before proceeding with cutting and patching primary operational systems and equipment; water, moisture, vapor, air, or smoke barriers; membranes and flashings; noise and vibration control elements and systems; control, communication, conveying, and electrical wiring systems; and similar categories.

ARTICLE II – PRODUCTS

2.01. Materials

A. For replacement of Work removed, use only materials that comply with the pertinent requirements of the Contract Documents. (Those required and accepted for original installation.)

ARTICLE III – EXECUTION

3.01. Examination

- A. Examine existing conditions prior to commencing Work, including elements subject to damage or movement during fitting, cutting and patching.
- B. After uncovering existing Work, assess conditions affecting performance of work.

3.02. Preparation

- A. Provide temporary supports to ensure structural integrity of the Work.
- B. If Hot Work is involved, comply with the requirements of Cal OSHA.
- C. Provide devices and methods to protect other portions of Project from damage.
- D. Provide protection from elements for areas that may be exposed by uncovering work.
- E. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- F. Except as otherwise indicated, proceed with cutting and patching at earliest feasible time in each instance, and perform work promptly.
- G. Post required permits.

3.03. Cutting

- A. Cut by methods least likely to damage retained and adjoining Work.
- B. Review proposed procedure with original installer where possible, and comply with installer's recommendations.
- C. Uncover work to install improperly sequenced work.
- D. Remove and replace defective or non-conforming work.
- E. Remove samples of installed work for testing when requested.
- F. Provide openings in the Work for penetration of mechanical and electrical work.
- G. Employ original installer or fabricator where possible to perform cutting for:
 - 1. Weather exposed and moisture resistant elements; or
 - 2. Visually exposed surfaces.
- H. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.
- I. Comply with requirements of the Civil Drawings, where cutting and patching requires excavating and backfilling.

3.04. Patching

- A. Execute patching to complement adjacent Work.
- B. Fit Products together to integrate with other Work.
- C. Avoid damage to other Work and provide appropriate surfaces to receive patching and finishing.
- D. Employ original installer where possible to perform patching for weather exposed and moisture resistant elements, and visually exposed surfaces.
- E. Restore patched areas with new Products in accordance with requirements of Contract Documents.
- F. Fit patches tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

3.05. Performance

- A. Performing cutting or patching operations means acceptance of existing conditions by Contractor.
- B. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
- C. By-pass utility services such as pipe or conduit, before cutting, where services are required to be removed, relocated or abandoned.
 - 1. Remove pipe or conduit in walls to be relocated, abandoned or removed.
 - 2. Cap, valve or plug, and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and removing.
- D. Where feasible, inspect and test patched areas to demonstrate integrity of installation.
- E. Remove and replace Work judged by Designer of Record to be visually unsatisfactory.

- F. Perform cutting, fitting and patching in a manner to prevent damage to Contractor's Work and work by others and to provide proper surfaces for the installation of materials, equipment, and repairs.
- G. Do not cut nor alter structural members without prior written acceptance of Owner.
- H. Adjust and fit Products to provide a neat installation.
- I. Refinish cut and patched surfaces to match adjacent finish.
 - 1. For continuous surfaces, refinish to nearest intersection or natural break.
 - 2. For an assembly, refinish entire assembly.
- J. Over patched wall or ceiling surfaces, refinish to nearest cut-off line for entire surface, such as intersection with adjacent wall or ceiling, beam, pilasters, or to nearest opening frame, unless otherwise indicated.
- K. Refinished surfaces must not present a spotty, touched-up appearance.

ARTICLE IV – FORMS (NOT USED)

END OF DOCUMENT 01 7310

SECTION 01 7400

CLEANING

ARTICLE I – GENERAL

1.01. Summary

- A. This Section includes:
 - 1. Article I General
 - a. 1.01 Summary
 - b. 1.02 Related Documents and Sections (Not Used)
 - c. 1.03 Definitions
 - d. 1.04 General Cleanup Responsibility
 - e. 1.05 Immediate Cleanup Activities
 - f. 1.06 Daily Cleanup Activities
 - g. 1.07 Weekly Cleanup Activities
 - h. 1.08 Owner's Right to Cleanup
 - i. 1.09 Storage and Disposal
 - j. 1.10 Sand Blasting
 - k. 1.11 Final Cleaning
 - 2. Article II Products (Not Used)
 - 3. Article III Execution (Not Used)
 - 4. Article IV Forms (Not Used)

1.02. Related Documents and Sections (Not Used)

1.03. Definitions (Not Used)

1.04. General Cleanup Responsibility

- A. Contractor must keep the Work areas, Project Site, and surrounding areas free from waste materials, debris, and/or trash and rubbish caused by its operations on a daily basis.
- B. In addition to trash and rubbish generated by Contractor's operations, Contractor must keep the Work areas, Project Site, and surrounding areas free from trash and rubbish from any source that accumulates within the Work areas or Project Site or any other area designated by the Owner for use by Contractor on a daily basis.
- C. The Contractor must keep all surface areas (i.e., inside buildings, site roads, off-site streets, and parking areas) clear of dirt, mud, and debris and must clean such surfaces as required, as needed, or as Directed by the Owner's Project Manager.
- D. Contractor's and Subcontractors' tools, scaffolding and surplus materials must be neatly stored in designated storage areas when not in use.
- E. Contractor must maintain the Project Site in a neat and orderly condition at all times.

1.05. Immediate Cleanup Activities

- A. Properly dispose of packaging materials and clean surrounding areas of packing debris immediately after unpacking of Products, materials, equipment, or other packaged items.
- B. Dispose of waste materials and clean surrounding areas used for worker breaks and lunch immediately after worker break or lunch. Contractor must provide trash receptacles in break and lunch areas.
- C. Contractor must immediately remove any spillage, dirt and mud, and/or debris resulting from Contractor's hauling or other operations along or across any public traveled way or public area.
- D. Remove debris and rubbish from pipe chases, plenums, down spouts, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- E. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust on a continuous basis.

1.06. Daily Cleanup Activities

- A. Cardboard, packing material, and similar combustible debris must not be accumulated within buildings and such debris, rubbish and waste material must be removed from buildings on a daily basis.
- B. Contractor must leave Work areas "broom clean", or its equivalent, on a daily basis.
- C. Contractor must remove (pick up and place in trash receptacles) rubbish from and about areas of Work and the Project Site on a daily basis.
- D. Contractor must clean the Project Site entrance area(s) of mud, dirt, displaced gravel, and rubbish each day and on a continuous basis.

1.07. Weekly Cleanup Activities

- A. Remove rubbish (pick up and place in trash receptacles) from and about the Project Construction Fencing line. This includes areas both inside and outside of the Project Site along the Temporary and Construction Fencing and/or permanent perimeter fence line.
- B. Place concrete debris in designated areas or remove from Project Site.
- C. Stack unused shipping pallets in designated areas or remove from Project Site. Wood pallets are not permitted.
- D. Repair, replace, or remove damaged and/or torn plastic sheeting used to protect stored materials, Products or Work.
- E. Empty all trash receptacles
- F. Remove accumulated waste from the Project Site and dispose of in a proper and lawful manner.
- G. Organize and clean storage areas

1.08. Owner's Right to Clean Up

- A. Deficient cleaning or disposal operations, as determined by the Owner's Project Manager, must be immediately corrected by Contractor.
- B. After proper written notice, in cases where Contractor does not correct deficient cleaning or disposal operations, Owner may remove or cause to have removed waste materials, debris, and/or trash and rubbish, etc., and reduce the Contract Sum by the cost thereof.
- C. If a disagreement arises between the Contractor and other separate contractors performing work at or adjacent to the Project Site, as to the responsibility pursuant to their respective contracts for maintaining the Project Site and surrounding areas free from waste materials, debris, and/or trash and rubbish, Owner may clean up or cause to be cleaned up the waste materials, debris, and/or trash and rubbish and allocate the costs among those responsible, and reduce the Contract Sum by Contractor's proportionate share of the cost thereof.

1.09. Storage and Disposal

- A. Storage.
 - 1. Waste materials, trash, and rubbish must be removed in covered containers and cannot be stored.
 - 2. Storage containers must not be allowed to overflow due to excessive waste materials, trash, and rubbish being placed in the storage container.
 - 3. Storage container lids must be unobstructed by waste materials, trash, and rubbish when they are in the closed position.
 - 4. Storage container lids must be closed at all times except when waste materials, trash, and rubbish are being placed into or removed from the storage container.
 - 5. Recyclable materials must be segregated before storage and stored in separate containers or areas.
- B. Disposal.
 - 1. Under no circumstances shall rubbish or waste material be disposed of in fills or backfills on the Project Site.
 - 2. Contractor is responsible for making all arrangements and paying all costs for disposal of waste materials, debris, and/or trash and rubbish.

- 3. Waste materials, debris, and/or trash and rubbish, must be removed from the work area on a daily basis.
- 4. When any material is to be disposed of outside the Project area, at other than a public disposal or recycling facility, Contractor must first obtain a written permit from the property owner of the proposed disposal site, and furnish Owner said permit or a certified copy thereof together with a written release from the property owner absolving Owner from any and all responsibility in connection with the disposal of said material on said site.
- 5. Before any material is disposed of on said site, Contractor must obtain written permission from the Owner to dispose of the material at the location designated in said permit.
- 6. Disposal of Hazardous Materials must comply with all legal requirements, including but not limited to containerization, labeling, manifesting, transportation, disposal site, and use of properly trained personnel.
- Contractor must submit two (2) copies of all Hazardous Waste Manifests signed by Toxic Substances Disposal Facilities ("TSDF's") and certificates of disposal at Substantial Completion of each Project Component to prove that Contractor has legally disposed of such materials.
- 8. Contractor must separate and recycle the following waste material types in accordance with Contractors Solid Waste Management Plan (see Document 01 5150, "Solid Waste Management and Recycling Plan").
 - a. Concrete
 - b. Metal
 - i. Ferrous
 - ii. Non-ferrous
 - c. Wood
 - d. Debris
 - e. Glass
 - f. Paper
 - i. Bond
 - ii. Newsprint
 - iii. Cardboard and paper packaging materials
 - g. Others as appropriate

1.10. Sand Blasting (if applicable)

- A. Sand blasting shall be only used upon receipt of written permission of the Project Manager.
- B. Perform sand blasting by experienced mechanics using sound modulated power machinery designed for this use.
 - 1. Comply with all applicable regulatory agencies.
 - 2. Use blasting aggregate uniformly graded, free from all animal or vegetable material, and not larger than No. 30 grit.
 - 3. Air compressor must be capable of providing air at a pressure of 100-110 pounds at 210-300 cfm. Use blast nozzle of 5/16-inch orifice.
- C. Operation.
 - 1. Sand blast by the "flash" method.
 - 2. Pass continuously over the surface, to provide a uniform cutting of the surface, without pitting or excessive erosion of the base material.
 - 3. Exercise care to prevent corners or sharp edges from being broken or unduly rounded.
 - 4. Used aggregate must not be reused.
 - 5. Protect installed work of others from damage by blast, rebound, or used aggregate.
 - 6. Cover and protect mechanical work, air intakes, and similar items, as well as finished surfaces.
- D. Replace damaged work.
- E. Secure and pay for necessary permits required by state and local authorities having jurisdiction.

1.11. Final Cleaning

- A. Project Component Substantial Completion Certification(s).
 - 1. Contractor must, before requesting a Preliminary Walk-Through Inspection for Substantial Completion of each Project Component, perform preliminary Cleaning of all Work areas associated with the Milestone.
- B. Project Component Final Completion Certification.
 - 1. Contractor must, before requesting a Preliminary Walk-Through Inspection for Final Inspection of the entire Work of the Project, perform Final Cleaning of all Work areas and the Project Site.
- C. Final Cleaning Requirements.
 - 1. General.
 - a. Cleaning for specific items of Work as specified
 - b. Comply with manufacturer's instructions for cleaning operations.
 - c. Clean interior and exterior surfaces exposed to view
 - d. Remove labels that are not required as permanent labels.
 - e. Dust, dirt, stains, hand marks, paint spots, and like defects must be completely removed from surfaces.
 - f. Metal surfaces must be cleaned, using only non-corrosive and non-abrasive materials.
 - g. Remove debris and surface dust from limited-access spaces including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - 2. Transparent Surfaces.
 - a. Clean all glass, interior and exterior, affected by Work of this Project; including removal of foreign material from glass.
 - b. Polish transparent and glossy surfaces
 - c. Clean transparent materials, including mirrors and window/door glass, to a polished condition, removing substances that are noticeable as vision-obscuring materials.
 - d. Replace broken glass and damaged transparent materials.
 - 3. Soft Surfaces.
 - a. Vacuum carpeted surfaces.
 - b. Vacuum all other soft surfaces.
 - 4. Hard Surfaces.
 - a. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of dust, stains, films, and similar noticeable distracting substances.
 - b. Except as otherwise indicated, avoid disturbance of natural weathering of exterior surfaces.
 - c. Restore reflective surfaces to original reflective condition.
 - d. Clean concrete floors in unoccupied spaces broom clean.
 - 5. Equipment and Fixtures.
 - a. Clean equipment and fixtures to sanitary condition
 - b. Replace filters on all mechanical and plumbing equipment.
 - c. Mechanically clean the interior of all ductwork and provide certification by a licensed duct cleaning professional.
 - d. Wipe surfaces of equipment and fixtures clean, including elevator equipment and similar equipment
 - e. Remove excess lubrication and other substances.
 - f. Clean plumbing fixtures to a sanitary condition, free of stains including those resulting from water exposure.
 - g. Clean food service equipment to a condition of sanitation ready and acceptable for intended food service use (if applicable).
 - 6. Roofs, gutters, downspouts and drainage systems.
 - a. Clean roofs, gutters, downspouts and drainage systems.
 - 7. Exterior Grounds.
 - a. Clean Project Site (yard and grounds), including landscape development areas, of litter, surplus materials, and foreign substances.
 - b. Sweep and power wash paved areas to clean condition; remove stains, petro-chemical spills, and other foreign deposits.

- c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
- 8. Lights and Lamps.
 - a. Clean all light fixtures and lamps to function with full efficiency.

ARTICLE II – PRODUCTS (NOT USED)

- ARTICLE III EXECUTION (NOT USED)
- ARTICLE IV FORMS (NOT USED)

END OF DOCUMENT 01 7400

DOCUMENT 01 7700

CLOSEOUT PROCEDURES

ARTICLE I – GENERAL

1.01. Summary

- A. Document Includes:
 - 1. Description of Contract closeout procedures including:
 - a. Removal of Temporary Construction Facilities
 - b. Substantial Completion
 - c. Final Completion
 - d. Final Cleaning
 - e. Project Record Documents
 - f. Material, Equipment and Finish Data
 - g. Project Guarantee
 - h. Warranties
 - i. Turn-In
 - j. Fire Inspection Coordination
 - k. Building Inspection Coordination
- B. Related Documents include:
 - a. 00 6301 Guaranty
 - b. 00 7200 General Conditions
 - c. 01 2900 Payment Procedures
 - d. 01 5000 Temporary Facilities and Controls
 - e. 01 5700 Storm Water Pollution Prevention Plan
 - f. 01 7400 Cleaning
 - g. 01 7800 Closeout Submittals

1.02. Removal of Temporary Construction Facilities

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore permanent facilities used during construction to original condition or better,
- D. Comply with removal requirements of Document 01 5000 (Temporary Facilities and Controls).

1.03. Substantial Completion

- A. When Contractor considers Work or designated portion of the Work as Substantially Complete, submit written notice to Owner Representative and Architect/Engineer, with list of items remaining to be completed or corrected.
- B. Within reasonable time, Owner Representative and/or Architect/Engineer will inspect to determine status of completion.
- C. Should Owner determine that Work is not Substantially Complete, Owner will promptly notify Contractor in writing, listing all defects and omissions.
- D. Remedy deficiencies and send a second written notice of Substantial Completion. Owner will reinspect the Work. If deficiencies previously noted are not corrected on re-inspection, then Contractor shall pay Owner cost of the re-inspection.
- E. When the Owner and Architect are in agreement that Work is Substantially Complete, the Architect will issue a Certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified by Owner.
- F. Manufactured units, equipment and systems that require startup must have been completely operational and successfully tested for periods prescribed by Owner before a Certificate of Substantial Completion will be issued.
- G. A punch list examination will be performed upon Substantial Completion. One follow-up review of

punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, Contractor will reimburse Owner for costs associated with these additional visits.

1.04. Final Completion and Acceptance

- A. <u>Use Before Acceptance</u>.
 - 1. Owner has the right to utilize or place into service any item of equipment or other usable portion of the Work before Acceptance of the entire Project. Whenever Owner plans to exercise said right, Owner will notify Contractor in writing, identifying the specific portion or portions of the Work to be so utilized or otherwise placed into service, hereinafter referred to as "Use Before Acceptance".
 - 2. Until Owner issues such written notification, Contractor is responsible for all care and maintenance of all items or portions of the Work.
 - 3. Upon Owner's issuance of written notice of Use Before Acceptance, Owner accepts responsibility for the protection and maintenance of all such items or portions of the Work described in the written notice, excepting any injury or damage resulting from Contractor's actions or negligence.
 - 4. If, by reason of Owner's Use Before Acceptance, the premium for the Contractor's bodily injury and property damage insurance is increased, Owner will reimburse the Contractor for the additional amount necessarily incurred, allocable to the area and the period of Owner's occupancy, up to the Date of Acceptance of the Work.
 - 5. Owner's Use Before Acceptance does not constitute Acceptance of the Work, or any portion of the Work, by Owner, nor will it relieve the Contractor of responsibility for correcting defective and/or Deficient Work or materials found at any time before Acceptance of the Work or during the Guarantee period after Owner's Acceptance. However, when the Project includes separate buildings, and one or more of the buildings is entirely occupied by Owner, then upon written request by the Contractor and by written consent from Owner, the Guarantee period on the building entirely occupied by Owner will commence to run from the date of Owner occupancy of such building or buildings.
 - 6. Notwithstanding any Use Before Acceptance, Contractor retains full responsibility for fulfillment of all the requirements of the Contract Documents.
- B. <u>Contractor's List Of Incomplete Work</u>.
 - Near the final completion of each Project Component, but not less than thirty (30) Days prior to anticipated date of Final Inspection, Contractor must conduct a detailed inspection of the Project, and submit three (3) paper copies and an electronic copy on flash drive the list of Incomplete Work with a schedule for final completion thereof to Owner's Project Manager.
 - 2. Within fourteen (14) Days after receipt of Contractor's list of Incomplete Work and schedule for final completion, Owner's Project Manager will determine appropriate dates for a Preliminary Walk-Through inspection and the Final Inspection. The Preliminary Walk-Through Inspection and Final Inspection will not be conducted until the entire Work of the Project Component is complete.
 - Contractor must include activities showing submission of Contractor's List of Incomplete Work, Preliminary Walk-Through Inspection, and Final Inspection in Contractor's Progress Schedule.
- C. <u>Contractor's Certification That All Work Of The Project Is Complete</u>.
 - 1. When all Work is complete and after the Contractor has performed the final cleaning, Contractor must so certify to Owner's Project Manager and request a Preliminary Walk-Through Inspection.
 - 2. If the Contract Documents include a Milestone for the completion of the entire Work of the Project, two (2) paper copies and an electronic copy on flash drive to the Owner of the Milestone Completion certification must be submitted concurrently with the Contractor's certification that all the Work of the Project is complete as required by the Contract Documents.
- D. <u>Preliminary Walk-Through Inspection</u>.

- Within seven (7) days of receipt of Contractor's certification that all Work is complete, Owner's Project Manager/Project Inspector and design team will make a Preliminary Walk-Through Inspection with Contractor to verify that the Project is complete and ready for Final Inspection.
- If Owner's Project Manager determines that the Work is not complete, Contractor will be notified in writing. Contractor must complete the Work and re-initiate procedures for another Preliminary Walk-Through Inspection. At Owner's discretion, any costs to Owner for additional Preliminary Walk-through Inspections may be charged to the Contractor.

E. Final Inspection.

- 1. The Final Inspection will occur within fourteen (14) days of the Contractor's certification of final completion if the Owner's Project Manager agrees with the Contractor's certification.
- 2. If Owner's Project Manager determines the completed Work is deficient, Contractor will be furnished with a Punchlist identifying the observed deficiencies in the completed Work. After all deficiencies have been corrected, Contractor must initiate procedures for another Final Inspection. If Contractor requests more than two (2) Final Inspections, at Owner's discretion, any costs to Owner for additional Final Inspections may be changed to the Contractor.
- 3. Contractor's Progress Schedule must include activities for Final Inspection.
- F. Not Used
- G. <u>Acceptance Of The Work</u>.
 - 1. Owner's Acceptance establishes conformity with the Contract except for delays in completion, latent defects, fraud, or such gross errors as amount to fraud, willful misconduct, or gross negligence, and subject to any Guarantee and Warranty, express or implied.
- H. Final Payment.
 - Provided that Owner has received all lien releases and certified payroll records as required by Document 01 2900 (Payment Procedures) and recorded a Notice of Completion, thirty-five (35) Days after the date of recording of the Notice of Completion by the County Recorder, Owner's Project Manager will forward a request for Final Payment for the Work done pursuant to the Contract to the County Controller for payment. Owner will withhold from Final Payment such amounts that are in dispute between Owner and Contractor, amounts subject to offset/setoff, and all other amounts that must be withheld by law (such as Stop Notice sums, incomplete, defective work, etc.).
 - 2. All estimates and payments made, including the final estimate and payment, are subject to correction and adjustment for clerical errors in the calculations involved in the determination of quantities and payments. Contractor and Owner agree to pay to the other any sum hereby due.
- I. <u>Contractor's Duties and Responsibilities After Acceptance</u>.
 - 1. After Acceptance of the Work by Owner, Contractor is relieved of the duty of maintaining and protecting the entire Work, and Contractor is not required to perform any further Work thereon, except as otherwise required by law or the Contract Documents.
 - 2. Contractor is relieved of responsibility for injury to persons or property or damage to the Work that occurs after Owner's Acceptance, provided that such injury/damage is not in any way caused by Contractor.
 - 3. Owner's Acceptance does not relieve Contractor of responsibility for faulty workmanship or materials or of complying with the requirements of Warranties and Guarantees.
- J. <u>Retention Proceeds, Withholding and Disbursement</u>.
 - 1. Pursuant to California Public Contract Code § 7107, within sixty (60) days after the date of "Completion" of the Work, the retention withheld by Owner shall be released, subject to all withholds required and authorized by law including Stop Notice claims and Liquidated Damages (pursuant to California Government Code § 53069.85). In the event of a Dispute between Owner and Contractor, Owner may withhold from the Final Payment an amount not to exceed one hundred fifty percent (150%) of the Disputed amount.
 - 2. For purposes of release of retention, "Completion" means any of the following:
 - a. The occupation, beneficial use, and enjoyment of the entire Work, accompanied by cessation of labor on the work of improvement.

- b. The Acceptance by Owner of the Work.
- c. After the commencement of Work, a cessation of labor on the Work for a continuous period of one-hundred (100) Days or more, due to factors beyond Contractor's control.
- d. After the commencement of Work, a cessation of labor on the Work for a continuous period of thirty (30) Days or more, if Owner records a Notice of Cessation or a Notice of Completion with the County Recorder.
- K. <u>Warranty & Guarantees</u>.
 - 1. Neither the final Acceptance, nor payment, nor any provision in the Contract Documents relieves Contractor of responsibility for faulty materials or workmanship.
 - 2. Contractor must Guarantee all workmanship and materials for a period of one (1) year, or as specified in the Contract Documents, from and after the Date of Substantial Completion of the Work by Owner. Contractor may also be required to furnish a written Guarantee covering all or certain items of Work for varying periods of time from the Date of Substantial Completion of the Project Component. The Work to be Guaranteed, the form, and the time limit of the Guarantee will be specified in the Contract Documents. Said Guarantee must be signed and submitted to Owner before Acceptance of the Work.
 - 3. The Guarantee period begins at the Date of Substantial Completion. Contractor must repair or replace all defective Work, together with any other Work affected by the repair or replacement during said Guarantee period without expense whatsoever to Owner.
 - 4. Approximately thirty (30) days before completion of the entire Work of the Project, Contractor must meet with Owner regarding Warranty/Guarantee requirements. Owner will establish communication procedures for notifying Contractor of Warranty defects, priorities regarding the type of defect, time required for Contractor response, and other details deemed necessary by Owner for execution of the Warranty/Guarantee.
 - 5. In the event of Contractor's failure to comply with the requirements of any Warranty/Guarantee required by the Contract Documents within three (3) calendar days after being notified in writing, Owner may proceed to have the defects repaired and made good at the expense of Contractor who must pay all costs and charges immediately upon demand.
 - 6. Contractor agrees to provide Owner with documentation of all product warranties provided by product manufacturer and/or distributor.

ARTICLE II - PRODUCTS – NOT USED

ARTICLE III - EXECUTION - NOT USED

END OF DOCUMENT 01 7700

DOCUMENT 01 7800

CLOSEOUT SUBMITTALS

ARTICLE I – GENERAL

1.01. Summary

- A. This Document specifies general, administrative and procedural requirements for Project Record Documents. Contractor shall have complete responsibility for preparation of marked-up and final Record Documents.
- B. Project Record Documents required include:
 - 1. Marked-up copies of Contract Drawings.
 - 2. Marked-up copies of Shop Drawings and Coordination Drawings, including Contractor's design documents and drawings.
 - 3. Newly prepared Drawings.
 - 4. Marked-up copies of Project Manual/Specifications, Addenda and Contract Modifications.
 - 5. Marked-up Project Data submittals.
 - 6. Record Samples.
 - 7. Field records for variable and concealed conditions.
 - 8. All undelivered photographs.
 - 9. Final, complete, edited and drafted versions of the above documents, provided in three (3) sets of hard copies and three (3) sets of electronic files on flash drives.
- C. Specific Project Record Documents requirements that expand requirements of this Document are included in the individual Sections of Divisions 2 through 33.
- D. General Project closeout requirements are included in Document 01 7700 (Closeout Procedures).
- E. Maintenance of Documents and Samples.
 - 1. Store Project Record Documents and samples in the field office apart from Contract Documents used for construction.
 - 2. Project Record Documents are not permitted to be used for construction purposes.
 - 3. Maintain Project Record Documents in good order, and in a clean, dry, legible condition.
 - 4. Make documents and samples available at all times for inspection by Owner.
- F. During the construction period, Contractor shall maintain one (1) full-size set of the approved Construction Permit drawings and one (1) Project Manual for Contractor's use for recording as-built conditions.

1.02. Project Record Drawings

- A. <u>Mark-up Procedure</u>. During the construction period, maintain a set of Contract Drawings, Coordination Drawings and Shop Drawings for Project Record Document purposes. Label the cover of each document (on first sheet or page) 'PROJECT RECORD' in two (2.35") inches high printed letters and each page of the field set "PROJECT RECORD DRAWINGS" in neat large printed letters in the lower right-hand corner.
- B. Keep record documents current. Note: A reference by number to a Contract Modification, RFI, Supplemental Instruction or other such document is not acceptable as sufficient record information on any record document. Do not permanently conceal any Work until required information has been recorded.
 - 1. Mark these Drawings to indicate the actual installation where the installation varies from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
 - a. Dimensional changes to the Drawings.
 - b. Revisions to details shown on the Drawings.
 - c. Depths of various elements of foundation in relation to main floor level or survey datum.
 - d. Horizontal and vertical location of underground duct banks, utilities and appurtenances referenced to permanent surface improvements.

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- e. Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure.
- f. Establish locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub-outs, invert elevations, and similar items.
- g. Provide actual numbering of each electrical circuit.
- h. Field changes of dimension and detail.
- i. Revisions to routing of piping and conduits.
- j. Revisions to electrical circuitry.
- k. Actual equipment locations.
- I. Duct size and routing.
- m. Changes made by Contract Modification.
- n. Details not on original Contract Drawings.
- 2. Mark completely and accurately Project Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
- 3. Mark Project Record Drawing sets with red erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
- 4. Mark important additional information that was either shown schematically or omitted from original Drawings.
- 5. Note Construction Change Directive numbers; alternate numbers; Contract Modification numbers and similar identification.
- 6. Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings.
 - a. Accurately record information in an understandable and legible drawing technique.
 - b. Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.
- 7. See also Document 01 3250 (Record Documents As-Builts).
- C. <u>Preparation of Final Record Drawings</u>. Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with Owner. When authorized, prepare a full set of updated As-Built Model(s) in BIM, see Document 01 3120 (Building Information Modeling (BIM) and Coordination Drawings) and prints of Contract Drawings and Shop Drawings.
 - 1. Incorporate changes and additional information previously marked on print sets. Delete, cloud, redraw/modify, and add details and notations where applicable. Identify and date each Drawing revision; include the printed designation 'PROJECT RECORD DRAWINGS' in a prominent location on each Drawing.
 - 2. Refer instances of uncertainty requiring clarifications to Owner for resolution.
 - 3. Distribution: Whether or not changes and additional information were recorded, organize and bind original marked-up set of prints that were maintained during the construction period into manageable sets. Bind the set with durable paper cover sheets, with appropriate identification, including titles, dates and other information on cover sheets. Submit the marked-up Project Record Drawings set to Owner.
- D. <u>Shop Drawings and Samples</u>. Maintain as record documents; legibly annotate Shop Drawings and Samples to record changes.
- E. Incorporate all comments applicable that have been provided after the review(s).

1.03. Project Record Project Manual (Specifications)

A. During the construction period, Contractor shall maintain one (1) copy of the Project Manual, including addenda and modifications issued, for Project Record Document purposes.

- 1. Mark the Project Record Manual to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, change order work, and information on concealed installation that would be difficult to identify or measure and record later.
 - a. In each Project Manual Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
 - b. Record the name of the manufacturer, catalog number, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
 - c. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
- B. Upon completion of mark-up, submit Project Record Manual to Owner for Owner records.

1.04. Project Record Data

- A. During the construction period, Contractor shall maintain one (1) copy of each Project Record Product Data submittal for Project Record Document purposes.
 - 1. Mark Project Record Product Data to indicate the actual product installation where the installation varies from that indicated in Project Record Product Data submitted. Include significant changes in the product delivered to the site, and changes in manufacturer's instructions and recommendations for installation.
 - 2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 3. Note related Contract Modifications and mark-up of Project Record Drawings, where applicable.
 - 4. Upon completion of mark-up, submit a complete set of Project Record Product Data to Owner for Owner records.
 - 5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
 - 6. The prime Contractor is Responsible for mark-up and submittal of record Project Record Product Data for its own Work.

1.05. Material, Equipment and Finish Data

- A. Provide data for primary materials, equipment and finishes as required under each Project Manual/Specification section.
- B. Include additional information requested by Owner.
- C. Submit three (3) hard-copy sets prior to final inspection, bound in 8-1/2 inches by 11 inches threering binders with durable plastic covers, with typewritten table of contents for each volume. Concurrently, submit one (1) electronic set in PDF (one file for each separate item) on flash drive.
- D. Arrange by Project Manual division and give names, addresses, and telephone numbers of subcontractors and suppliers. List:
 - 1. Trade names.
 - 2. Model or type numbers.
 - 3. Assembly diagrams.
 - 4. Operating instructions.
 - 5. Cleaning instructions.
 - 6. Maintenance instructions.
 - 7. Recommended spare parts.
 - 8. Product data.

1.06. Miscellaneous Closeout Submittals

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- A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to Owner for Owner records. Categories of requirements resulting in miscellaneous records include, but are not limited to the following:
 - 1. Field records on excavations and foundations.
 - 2. Field records on underground construction and similar work.
 - 3. Survey showing locations and elevations of underground lines.
 - 4. Invert elevations of drainage piping.
 - 5. Surveys establishing building lines and levels.
 - 6. Authorized measurements utilizing unit prices or allowances.
 - 7. Records of plant treatment.
 - 8. Ambient and substrate condition tests.
 - 9. Certifications received in lieu of labels on bulk products.
 - 10. Batch mixing and bulk delivery records.
 - 11. Testing and qualification of tradespersons.
 - 12. Documented qualification of installation firms.
 - 13. Load and performance testing.
 - 14. Inspections and certifications by governing authorities.
 - 15. Leakage and water-penetration tests.
 - 16. Fire resistance and flame spread test results.
 - 17. Final inspection and correction procedures.

ARTICLE II – PRODUCTS

2.01. Not applicable to this Document.

ARTICLE III – EXECUTION

3.01. Recording

A. Post changes and modifications to the Documents as they occur. Do not wait until the end of the Project. Owner will periodically review Project Record Documents to assure compliance with this requirement, and withhold five percent (5%) of any monthly progress payment until Project Record Documents are current.

3.02. Submittal

- A. At completion of Project, deliver three (3) paper copies and one (1) complete electronic copy on flash drive of Record Documents to Owner.
- B. Accompany submittal with transmittal letter containing:
 - 1. Date
 - 2. Project title and number
 - 3. Contractor's name and address
 - 4. Number and title of each record document
 - 5. Certification that each document as submitted is complete and accurate, and signature of Contractor, or Contractor's authorized representative.

END OF DOCUMENT 01 7800

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Items indicated to be removed and salvaged remain County's property. Remove, clean, and deliver to County's designated storage area.
- B. Comply with EPA regulations and hauling and disposal regulations of authorities having jurisdiction.
- C. It is not expected that hazardous materials will be encountered in the Work. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify County. County will remove hazardous materials under a separate contract.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 DEMOLITION

- A. Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain or construction being demolished.
- B. Provide temporary weather protection to prevent water leakage and damage to structure and interior areas.
- C. Protect walls, ceilings, floors, and other existing finish work that are to remain.
- D. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction.
- E. Promptly remove demolished materials from County property and legally dispose of them. Do not burn demolished materials.

END OF SECTION 024119

SECTION 02 42 90

PROTECTION OF HISTORIC CONSTRUCTION MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following Work. Refer to the Drawings for specific locations of the following Work:
 - 1. Photographic, written and/or drawn documentation of historic materials and finishes to be protected.
 - 2. Protection of all historic rooms, materials and finishes scheduled to remain in place during demolition and/or construction.

1.3 DEFINITIONS

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the County's property. Where indicated, document existing materials and items prior to removal, for use in replacing existing with new to match.
- B. Remove and Salvage: Remove and salvage element as indicated for replication or for County's use. Salvage includes protection, cataloging, documentation and tracking, as required.
- C. Remove, Salvage and Reinstall: Remove items indicated; store and protect against damage; restore and alter as indicated for reuse; and reinstall as indicated. Salvage includes required protection, cataloging, documentation and tracking.
- D. Catalog and Documentation: Identification system including physically marking item, photography, written and/or drawn documentation which adequately describe an element or assembly for reinstallation, restoration and/or replication purposes.
- E. Retain and Protect in Place: Retain the identified materials and assemblies in place during construction, and protect such materials and assemblies against damage and deterioration throughout construction. Protection requirements include the installation of physical barriers to prevent damage from construction activities. Barrier materials are to be installed without attachment directly to the materials and assemblies requiring protection.

1.4 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain the County's property, demolished materials shall become the

Contractor's property and shall be removed from the site with further disposition at the Contractor's option.

B. Materials or items which are discovered during the course of selective salvage, demolition and protection, which are not architectural or structural items and which are determined by the County's Representative to be historic artifacts, shall be turned over to the County.

1.5 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections, for information only, unless otherwise indicated.
- B. Proposed noise, dust-control and waterproofing measures.
- C. Schedule of Selective Salvage, Demolition and Protection activities indicating the following:
 - 1. Detailed sequence of selective salvage, demolition and removal work, with starting and ending dates for each activity.
 - 2. Detailed sequence of protection activities.
 - 3. Coordination for interruption, shutoff, capping, and continuation of utility services.
 - 4. Use of interior stairs and requirements for interior and exterior access.
- D. Selective Salvage, Demolition and Protection Program: Submit for review a detailed program indicating proposed operations for selective salvage, demolition and protection work to County's Representative for review and approval prior to start of work. Include the following:
 - 1. Site:
 - a. Method of protecting archaeological site investigations during demolition and construction activities.
 - b. Method of protecting landscape and plantings during demolition and construction activities.
 - 2. Building Exterior:
 - a. Method of protecting building exterior from damage during demolition and construction activities.
 - 3. Building system components, including sprinklers, mechanical, plumbing and electrical equipment, and light fixtures:
 - a. Method of marking each component required, and its location within the assembly to allow for accurate reinstallation in its original location.
 - 4. Woodwork and Trim, Wood Doors and Windows:
 - a. Method of marking each component required, and its location within the assembly to allow for accurate reinstallation in its original location.
 - b. Proposed crating, packing, and storing methods and materials.
 - c. Proposed storage areas and facilities.
 - d. Proposed Material Removal Form (MRF) and Item Identification Numbering System (IIN). See sample MRF and IIN at the end of this specification section.
 - e. Method of protecting woodwork and trim, wood doors and windows remaining on site during demolition and construction activities.
 - 5. Wood Stairs:
 - a. Method of protecting wood stairs and railings during demolition and construction activities.
 - 6. Wood Flooring:

- a. Method of protecting wood floors remaining on site during demolition and construction activities.
- 7. Interior Plaster:
 - a. Method of cutting and removal of flat plaster for new construction.
 - b. Method of protecting flat and ornamental plaster remaining on site during demolition and construction activities.
- E. Photographs of Existing Conditions: Prior to commencement of selective salvage, demolition and protection work, submit photographs of existing damage on surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to selective salvage, demolition and protection operations.
- F. Documentation: Submit a graphic and photographic record of existing conditions at all locations where removal, salvage and reinstallation of existing materials and items is indicated, or where removal is required for construction or rehabilitation work.
- G. Catalog: Submit completed Material Removal Forms tracking items scheduled to be removed from their original locations.
 - 1. Submit partially filled-out forms at conclusion of selective removal and salvage operations.
 - 2. Submit fully filled-out forms at completion of restoration work.
 - 3. Inventory of Salvaged Items: Provide a synopsis of salvaged items in the form of an inventory. Inventory items by element groups including IIN.
- H. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other' information specified.

1.6 QUALITY CONTROL

- A. Regulatory Requirements: Comply with governing EPA notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Restoration Specialist: Selective removal, salvage and protection work shall be performed by experienced restoration firms and individuals with a minimum of 5 comparable historic restoration projects over the past 5 years. Firms and individuals performing removal and salvage work of this section shall be skilled with specific restoration and reinstallation processes and operations indicated.
- C. Field-Constructed Mockups: Prior to start of selective salvage, demolition and protection work, prepare the following mock ups on the building where indicated on the drawings or where directed in the field by the County's Representative. Prepare mock-ups using same materials and methods proposed for the Work, and under same weather conditions to be expected during time of the Work. Obtain County's Representative's acceptance of qualities before proceeding with removal and salvage Work.
 - 1. Temporary Protection: Demonstrate installation of temporary protection at the following:
 - a. Typical room which will remain generally off limits
 - b. Floors.
 - c. Walls, including baseboard and wainscot.
 - d. Window openings.

- e. Ceilings.
- f. Stairs.
- g. Demonstrate installation of temporary protection at Contractor's Path of Travel through building.

1.7 PROJECT CONDITIONS

- A. HISTORIC BUILDING Required Care in Selective Salvage, demolition and protection operations.
 - 1. The Work seeks to preserve and restore an historic building; and to protect, salvage and reuse selected building materials and items;
 - 2. Building materials and items shall be considered fragile and must be removed, restored, modified and handled with great care. Historic materials damaged during selective salvage and demolition operations may not be available for replacement; to remedy such damage repair and restoration shall be required. Protection of existing materials and items is of great importance.
- B. Selective Removal and Salvage:
 - 1. Materials or items indicated to be salvaged shall be removed with care and stored in a designated storage area or facility or where directed by County's Representative.
 - 2. Each material or element indicated to be salvaged shall be carefully crated and packed to prevent damage during transportation and storage.
 - 3. Items indicated to be removed and not salvaged shall be removed from the Project as work progresses. Where feasible, recycle building materials off site as appropriate.
 - 4. Storage or sale of removed items on site shall not be permitted.
- C. Protection: Construct temporary barricades and other forms of protection to fully protect existing building interior and all existing materials and items to remain. See section 3.4 for additional requirements.

PART 2 - PRODUCTS

2.1 STORAGE FACILITY

A. Salvaged materials and items shall be stored on site or off-site in storage area or facility acceptable to County's Representative, with dry, clean, ventilated spaces: Storage areas shall be isolated in order to prevent insect infestation of all woodwork items.

2.2 PROTECTION AND SALVAGE MATERIALS

- A. Padding: Non-moisture retentive material for padding and separation of stored materials.
 - 1. Ethafoam, or equal.
- B. Hard Barriers
 - 1. Fire-retardant treated lumber and plywood. Do not use materials which are infested with decay fungi or similar organisms.
 - 2. Fiberboard underlayment.

- C. Miscellaneous
 - 1. Polyethylene sheeting, corrugated cardboard, kraft paper, and clean quilted pads.
 - 2. Temporary attachment devices, including non-marring tape and removable, nonstaining anchors.
 - 3. Sound and thermal insulation materials.
 - 4. Warning signs and labels identifying historic areas, materials and items to be protected-in-place. Signage and labels to read, at a minimum, "Historic Retain and Protect," in multiple languages.
- D. Insect Infestation
 - 1. Provide non-toxic chemical treatment for exterior woodwork and other materials which are found to be insect-infested.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Maintain existing utilities indicated to remain in service and protect them against damage during selective salvage, demolition and protection operations.
- B. Verify that utilities have been disconnected and capped.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective salvage, demolition and protection required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with the intended function or design are encountered, investigate and measure the nature and extent of the conflict. Promptly submit a written report to the County's Representative.
- E. Survey the condition of the building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during selective salvage, demolition and protection.
- F. Perform surveys as the Work progresses to detect hazards resulting from selective salvage, demolition and protection activities.
- G. Photo documentation shall be through the use of a camera with an optically ground lens (no plastic lenses.) Film shall be 35 mm, either 100 ASA or 200 ASA film speed or digital media at not less than 6 megapixel resolution as TIF files or as high resolution JPG files saved on a DVD, unless otherwise approved. A test roll shall be shot to determine to the County's Representative that photography and methods to accomplish recordation are acceptable to the County.

3.2 PREPARATION

- A. Conduct selective salvage, demolition and protection operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
 - 1. Do not close or obstruct roadways, driveways, walks, or other adjacent occupied or used facilities without permission from County's Representative and authorities

having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

- B. Conduct selective salvage, demolition and protection operations to prevent injury to people and damage to adjacent buildings and facilities to remain. Ensure safe passage of people around selective salvage, demolition and protection area.
 - 1. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
 - 2. Protect existing site improvements, appurtenances, and landscaping to remain.
 - 3. Provide temporary weather protection, during interval between demolition and removal of existing construction, on exterior surfaces and new construction to ensure that no water leakage or damage occurs to structure or interior areas.
 - 4. Protect attic spaces, walls, ceilings, floors, and other existing finish work that are to remain and are exposed during selective salvage, demolition and protection operations.
- C. Provide and maintain interior and exterior shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of building to be selectively salvaged and demolished.

3.3 CATALOG AND DOCUMENTATION

- A. Where indicated to removed and salvaged, and removed, salvaged and reinstalled; document materials and items in their existing position and condition. This record shall include the following as indicated for specified elements and materials.
- B. Documentation of Woodwork and Trim, Doors and Windows:
 - 1. 4 in. x 6 in. color photographs of quality acceptable to County's Representative. Each object being salvaged shall be photographed in place, prior to removal. Photograph both front and back where applicable. Photograph unique connection details as required for reinstallation in original locations.
 - a. Mark photographs with corresponding Item Identification Number (IIN).
 - b. Maintain photographs in clear acetate sleeves and bound in 3-ring binders. At completion of Work, photographic records (including negatives or digital media files) shall become property of the County and shall be turned over to County's Representative upon request.
 - 2. Enlarged elevation and/or plan drawings, showing extent of existing woodwork to be salvaged and reinstalled, and identifying individual components and their IINs.
 - 3. Detailed, dimensioned drawings of unitary work, as required to enable replication and reinstallation.
 - 4. Written description to indicate existing conditions, and methods and techniques used for disassembly of items.
 - 5. All documentation shall be clearly marked with appropriate Item Identification Number (IIN) for all pieces and items of material removed.
- C. Documentation of Wood Flooring:
 - 1. 4 in. x 6 in. color photographs of quality acceptable to County's Representative. Each object being salvaged shall be photographed in place, prior to removal. Photograph both front and back where applicable. Photograph unique connection details as required for reinstallation in original locations.
 - a. Mark photographs with corresponding Item Identification Number (IIN).
 - b. Maintain photographs in clear acetate sleeves and bound in 3-ring binders. At completion of Work, photographic records (including negatives and

digital media files) shall become property of the County and shall be turned over to County's Representative upon request.

- 2. Enlarged elevation and/or plan drawings, showing extent of existing woodwork to be salvaged and reinstalled, and identifying individual components and their IINs.
- 3. Detailed, dimensioned drawings of unitary work, as required to enable replication and reinstallation.
- D. Catalog all Woodwork and Trim, and all elements which are part of a Window scheduled to be removed from its present location.
 - 1. Any material and item to be removed from its present location for any reason, shall be permanently marked with an Item Identification Number (IIN) and accompanied by a completed Material Removal Form (MRF).
 - a. IIN shall be a sequentially numbered system (see sample numbering system attached at the end of this specification). An overall Project numbering system shall be established at the beginning of the Project and approved by the County's Representative for use throughout.
 - b. MRF shall be a sequentially numbered document. Material Removal Log (MRL) of this document will be maintained and updated by Contractor. The log shall be reviewed periodically with the County's Representative. A copy of every MRF shall be given to the County's Representative and a copy to be kept with the MRL.
 - 2. Once a completed MRF has been issued, the respective artifact can be removed from its present location. Permanently affix the IIN as shown on the MRF to the item prior to removal.
 - a. Wood Materials and Items: Using metal stamps, 1/4 in. high, the IIN shall be stamped on an edge or surface that will be concealed when reinstalled, such as the top rail or hinge side of a window, or the back side of a unit of wood trim.
 - b. Glass: Affix IIN to glass in the following manner:
 - 1) Apply lacquer coat to protect glass.
 - 2) Place IIN on above coat using indelible ink.
 - 3) Apply second coat of lacquer as above.
 - c. Hardware/Metal: The IIN shall be inscribed using a carbide tipped scribe or other permanent method, in a location that will not be visibly noticed when reinstalled; i.e., on flange or surface that will be mounted against floor, ceiling or wall, or a location that will be covered by a support.
 - 3. Material Tracking: No item or artifact shall be removed from its current location unless an MRF has been reviewed and released by County's Representative. Maintain a Material Removal Log and record transfer of artifact until final receipt at the Project or permanent storage area.
- E. Material Removal Form:
 - 1. Utilize Material Removal Form Part A to include IIN, date, and record attached and applicable documentation (photos, drawings, written descriptions, etc.)
 - 2. Utilize Material Removal Form Part B to indicate existing condition and record all damage, scratches, dents, gouges, cracks or breakage prior to removal from its present location.
 - 3. In the event of any additional damage, the County's Representative shall immediately be contacted by telephone and damage confirmed in writing.

3.4 PROTECTION, SALVAGE AND REMOVAL

A. Protection:

- 1. Construct temporary protection at existing elements indicated to remain, to prevent damage to or marring of materials and items. Protection shall be of required size and thickness to withstand impact from falling debris, rolling equipment and objects; residue and droppings from all construction related activities.
 - a. Protect Contractor's Path of Travel through the building for the duration of the Project. Delineation of Contractor's Path of Travel to be coordinated with County's Representative.
- 2. Where indicated and where required to prevent damage, materials and items to be protected in place shall be enclosed in protective boxes or coverings. Protective materials shall not be anchored directly to the item being protected. Prevent direct contact between protective assemblies and existing elements or materials by use of spacers, corrugated cardboard, quilted pads, kraft paper, non-moisture retentive padding, or other adequate means.
- 3. Construct temporary dust proof barricades where indicated and required to separate historically sensitive areas, materials and items from extensive dirt or dust producing operations. Historically sensitive areas include:
 - a. The entire building interior.
 - b. Exterior building walls.
 - c. Porches, stairs and other exterior elements as indicated on the Drawings.
- 4. Provide temporary weather protection during interval between selective demolition and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing building.
- 5. Provide temporary shoring and scaffolding which does not damage historic fabric.
- 6. Monitor areas indicated to be protected by prohibiting passage and construction activities, except for selected work required therein.
- 7. Remove protections as required to perform selected Work, and reinstall following completion of selected work.
 - a. At completion of construction, completely remove protection. Restore and clean to match equivalent, restored existing materials and items if existing materials and items have been affected by protective coverings.
- B. Salvage and Removal: Where indicated to be "removed, salvaged and reinstalled" and "removed and salvaged", carefully remove indicated materials and items, and pack or crate for transport to storage area or facility. Maintain storage area or facility for the duration of the Project.
- C. Removal and Demolition: Demolish and remove existing construction as indicated only after protection, cataloging, documentation and salvage operations have been completed. Use methods required to complete Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective salvage, demolition and protection systematically.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. To minimize disturbance of adjacent surfaces, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Remove decayed, pest-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 5. Dispose of demolished items and materials promptly. On-site storage or sale of removed items is prohibited.

- 6. Off-site recycling of appropriate building materials is encouraged and recommended.
- 7. Return elements of construction and surfaces to remain to condition existing before start of selective salvage, demolition and protection operations.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site. Transport demolished materials off County property and legally recycle or dispose of them.
- B. Do not burn demolished materials.

MATERIAL REMOVAL FORM
PART A - GENERAL

DATE: ITEM IDENTIFICATION NO:				
ITEM DESCRIPTION:				
DOCUMENTED w/ PART B?: YESNO				
ITEM LOCATION:				
REMOVAL CONTRACTOR				
REMOVAL DATE:				
PURPOSE OF REMOVAL:				
ITEM TO BE DELIVERED TO:				
RECEIVING CONTRACTOR				
DATE RECEIVED: RECEIVING AGENT:				
ITEM TO BE DELIVERED TO:				
RECEIVING CONTRACTOR				
DATE RECEIVED: RECEIVING AGENT:				
ITEM TO BE DELIVERED TO:				
MATERIAL RETURNED TO PROJECT				
DATE RECEIVED: RECEIVING AGENT:				
NOTE: Contractor when transferring possession of this material to another trade contractor, shall transmit a copy of this form indicating receipt by next responsible agent to State's Representative. Original copy of this form must accompany material at all times.				

MATERIAL REMOVAL FORM PART B - SPECIAL CONDITIONS/COMMENTS

DATE:_____ ITEM IDENTIFICATION NO:_____

PHOTOGRAPHS ATTACHED:

DRAWINGS ATTACHED: _____

SPECIAL CONDITION/COMMENTS:

DATE:_____ PREPARED BY:____

RECEIVING AGENT SHALL SIGN BELOW, INDICATING CONCURRENCE WITH EXISTING CONDITIONS AS INDICATED ABOVE.

DATE:_____ RECEIVED BY:____

END OF SECTION 024290

SECTION 03 1000

CONCRETE FORMWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes all labor, materials, equipment, operations, or methods listed, mentioned or scheduled on the plans and/or herein specified, including all incidentals necessary and required for completion of work under this Section.
- B. Provide and install formwork for cast-in-place concrete, with shoring, bracing and anchorage.
- B. Form accessories.
- C. Stripping forms.

1.2 RELATED SECTIONS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Special Conditions and Division 1 of these Contract Documents.
- B. Division 2 Earthwork.
- C. Section 06 1000 Rough Carpentry
- D. Section 03 2000 Reinforcing Steel
- E. Section 03 3000 Cast in Place Concrete
- 1.3 SUBMITTALS FOR REVIEW
 - A. Section 01330, Submittal Procedures.

1.4 SYSTEM DESCRIPTION

- A. Design, engineer, and construct formwork, shoring, and bracing to meet design and code requirements, so that resultant concrete conforms to required shapes, lines, and dimensions.
- B. Contractor shall be responsible for strength of forms. In general, deflection of finished surface shall not exceed that produced by 5/8 inch plywood against studs set on 12 inch centers.

1.5 QUALITY ASSURANCE

A. Construct and erect concrete formwork in accordance with ACI and 2016 CBC.

1.6 PRODUCT HANDLING

- A. Protection: Protect formwork materials before, during and after installation and protect the installed work and materials of other trades.
- B. Replacements: In the event of damage, immediately make repairs and replacements necessary to the acceptance of the Architect and Structural Engineer at no additional cost to the Owner.

1.7 SEQUENCING AND SCHEDULING

A. Obtain information from other trades and suppliers in ample time to schedule and coordinate the installation of items furnished by them to be embedded in concrete.

PART 2 - PRODUCTS

2.1 FORM MATERIALS

- A. Earth Forms: Acceptable for grade beams, footings and similar below grade structures provided the following:
 - 1. Structural Drawings do not require and indicate otherwise;
 - 2. Vertical excavated material will stand without caving;
 - 3. Minimum reinforcing steel clearances are maintained;
 - 4. Suitable provisions are taken to prevent raveling on top edges of excavation;
 - 5. Suitable provisions are taken to prevent sloughing of loose material from walls of excavation;
 - 6. Excavation is neatly cut;
 - 7. Concrete which is exposed to view is poured against wood or metal forms to a minimum depth of 6 inches below finished grade;
- B. Wood Forms for Exposed Concrete Not Otherwise Noted and Specified:
 - 1. All wood forms shall be FSC.
 - 2. DFPA graded HDO (High Density Overlaid) Plyform, Class I or II (as per strength and tolerance requirements), exterior, each piece grade marked.

2.2 FORMWORK ACCESSORIES

- A. Form Ties: Snap-off metal of fixed length; cone type; 1 inch break back dimension; free of defects that will leave holes no larger that 1 inch diameter in concrete surface.
- B. Fillets for Chamfered Corners: Wood strips type; ~ ³/₄" ~ inch size; maximum possible lengths.
- C. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required; of strength and character to maintain formwork in place while placing concrete.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify lines, levels, and measurements before proceeding with formwork.

3. 2 EARTH FORMS

- A. Hand trim sides and bottoms of earth forms. Increase dimensions shown on Drawings 1-1/2 inches for each form surface omitted.
- B. Remove loose soil prior to placing concrete.

3.3 CONSTRUCTION OF FORMS

- A. Rigidly support and substantially construct forms; erect plumb, straight and true to line, shape, and dimensions, and in precise position to form the lines and designs indicated, suitable for removal without prying against concrete.
- B. Make forms tight without cracks and holes to prevent loss of fine particles from the concrete.
- C. Construction joints shall be in accordance with requirements of Cast-In-Place Concrete, Division 3. Provide a surfaced pouring strip where construction joints intersect exposed surfaces to provide straight line at joints. Prior to subsequent pour, remove strip and tighten forms. Construction joints shall show no "overlapping" and off setting of concrete surfaces and shall, as closely as possible, present the same appearance as butted plywood joints. Joints in a continuous line shall be straight and true.
- D. Provide fillet strips on external corners of beams and columns.
- E. Provide forms for slabs, with removable leveling screeds for flat work.
- F. Remove wood spreaders from forms prior to pour. No wood shall remain inside forms.
- G. Form lumber from this project may be reused for concealed framing, providing lumber at the time of reuse meets the framing grade requirements specified; is in good condition, thoroughly clean, with nails removed.

3.4 INSERTS AND EMBEDDED ITEMS

- A. Provide proper and adequate means for accurate positioning and securing bolts, holddowns, reinforcing, and inserts in concrete.
- B. Securely place embedded items, sleeves, and pockets, as indicated. Coordinate work of other sections. Use templates where necessary.
- C. Do not cut reinforcing for embedded items and inserts unless specifically indicated on Drawings.
- D. Do not embed piping in concrete, unless specifically authorized by Architect and indicated on Drawings.
- E. Do not embed electrical conduit in concrete without specific written authorization from Architect and Structural Engineer. Locate conduit so as to keep the concrete at its maximum structural strength. In slabs on grade the outside diameter of conduit shall not

exceed 30 percent of the concrete thickness and shall be located at the centerline of slab. Conduits can be grouped in pairs, but minimum clear distance between single conduits or pairs shall be 6 inches.

- 3.5 FORMWORK TOLERANCES
 - A. Wall Centerline Location: +/- 1/4 inch.
 - B. Slab on Grade Thickness: +/- 1/2 inch.
 - C. Other: +/- 1/4 inch.
- 3.6 REMOVAL OF FORMS
 - A. Remove forms and false work so as to ensure the complete safety of the structure. Do not remove supports until members have sufficient strength to safely support their own weight and superimposed loading with proper factor of safety. Do not remove forms and shoring without the authorization of the Architect and Structural Engineer. Authorization by the Architect and Structural Engineer of form removal shall not relieve the Contractor from responsibility for damage due to faulty construction or materials.
 - B. Remove forms for exposed concrete surfaces so as to preclude damage to finish. Do not use pinch bars and similar tools for prying against exposed surfaces.
 - C. Do not remove forms and shoring until the following minimum times have elapsed after concrete is placed:
 - 1. Vertical Forms (Walls, Columns, Beam Sides): 7 days.
 - 2. Side Forms (Footings, Slabs on Grade): 4 days.
 - 3. Horizontal Forms and Shoring for podium deck at ground level shall not be remove until concrete has reach full strength.
 - D. Remove bolts, wires, clamps, rods, spreader ties, and other embedded items not necessary to the work to a minimum of 1 inch from the surface. Take precautions to eliminate danger of rust stains from form tie materials or other unprotected ferrous materials embedded in and adjacent to exposed concrete surfaces.

END OF SECTION

SECTION 03 2000

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes all labor, materials, equipment, operations, or methods listed, mentioned or scheduled on the plans and/or herein specified, including all incidentals necessary and required for completion of work under this Section.
- B. Provide and install Reinforcing steel bars, welded steel wire fabric fabricated steel bar or rod mats for cast-in-place concrete or shotcrete.
- C. Support chairs, bolsters, bar supports, spacers, for supporting reinforcement.

1.2 RELATED SECTIONS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Special Conditions and Division 1 of these Contract Documents.
- B. Section 03 3000 Cast in Place Concrete

1.3 SUBMITALS

- A. Submit under provisions of Section 01 3000. B. Shop Drawings:
 - 1. Submit fully detailed shop drawings, including bending schedules and bending diagrams. Indicate placing details and size location of reinforcing steel. Shop drawings shall be of such detail and completeness that fabrication and placement at the site can be accomplished without the use of contract drawings for reference.
 - 2. Do not fabricate and place reinforcing steel before the shop drawings review has been completed by the Architect and Structural Engineer and returned to the Contractor. Review of shop drawings by the Architect and Structural Engineer will not relieve the Contractor of responsibility for errors or for failure in accuracy and complete placing of the work.

1.4 QUALITY ASSURANCE

- A. Perform concrete reinforcement work in accordance with CRSI, Manual of Standard Practice.
- B. Conform to ACI, and 2016 CBC.
- C. Submit certified mill test reports (tensile and bending) for each heat or melt of steel prior to delivery of material to the job site. Where reinforcing is required to be welded, mill test reports shall verify the weld ability of the steel.

1.4 COORDINATION

A. Check architectural, structural, mechanical and electrical drawings for anchor bolt schedules and locations, anchors, inserts, conduits, sleeves, and any other items which are required to be cast in concrete. Make necessary provisions as required so that reinforcing steel will not interfere with the placement of such embedded items.

1.5 PRODUCT HANDLING

- A. Bundle reinforcement and tag with suitable identification to facilitate shoring, placing and transport.
- B. Keep a sufficient supply of tested and approved reinforcement on the site to avoid delaying the work.
- C. Take means necessary to protect reinforcing steel before, during, and after installation and to protect the work and materials of other trades.
- D. Store reinforcing steel in a manner to prevent damage, excessive rusting, and fouling with dirt, grease and other bond-breaking coatings.
- E. Take necessary precautions to maintain identification after the bundles of reinforcing steel have been broken.
- F. In the event of damage, immediately make repairs and replacements necessary to the acceptance of the Architect and at no additional cost to the owner.

PART 2 - PRODUCTS

2.1 REINFORCING STEEL

- A. Reinforcing Bars: New, free of loose rust. 1. Billet-Steel Bars: ASTM A615, Grade 60.
- B. Welded Wire Fabric: ASTM A185; flat sheets.
- C. Tie Wire: 16 gauge minimum, black and annealed.
- D. Accessories: Metal or plastic spacers, supports, ties, as required for spacing assembling and supporting reinforcing in place. Supports shall comply with CRSI, Manual of Standard Practice.

2.2 FABRICATION

- A. Shop fabricate reinforcement in accordance with details on Drawings and 2016 CBC.
 Where specific details are not shown or noted, fabricate in conformance with ACI and CRSI.
- B. Clean bars of loose rust, loose mill scale and substances which may decrease bond.
- C. Bend bars cold and accurately to details on final reviewed shop drawings.

2.3 SOURCE QUALITY CONTROL

- A. Testing will be performed by the Owner's testing laboratory under provisions of Section 1410.
- B. Tests shall be made in accordance with the 2010 CBC. The testing laboratory will select samples for physical tests of reinforcing steel from material at the place of distribution, test the reinforcing steel and submit results of tests to the Architect and Structural Engineer for review prior to fabrication.
 - 1. Identified Reinforcing Steel: One tensile test and one bend test shall be made from a specimen from each 10 tons or fraction thereof of each size of reinforcing steel, if reinforcing is taken from bundles identified with heat number, is accompanied by mill analysis and mill test reports, and is properly tagged with an identification certificate.
 - 2. Unidentified Reinforcing Steel: One tensile and one bend test will be made for each 2-1/2 tons of fractions thereof of each size of reinforcing steel.
- C. Costs of tests to determine if unidentified steel complies with specified standards will be deducted by the Owner from the Contract Sum by Change Order.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Carefully examine the installed work of other trades prior to installing reinforcing steel and verify that such work is complete to the point where work of this section may commence.
- B. Ensure that reinforcing steel is installed in strict accordance with pertinent codes and regulations, the final reviewed shop drawings and original design.
- C. In the event of discrepancy, immediately notify the Architect and Structural Engineer. Do not proceed with installation in areas of discrepancy until discrepancies have been fully resolved.

3.2 PLACING REINFORCING STEEL

- A. Place reinforcing steel in accordance with the Drawings, final reviewed shop drawings and the CRSI Manual of Standard Practice. Install reinforcement accurately and secure against movement, particularly under the weight of workers and the placement of concrete.
- B. Locate reinforcement accurately in the forms and hold in place by means of supports adequate to prevent displacement and to maintain reinforcement at proper distances from form face. Place supports in accordance with CRSI Manual of Standard Practice. Use of wood supports and spacers inside the forms is not permitted.
- C. Support reinforcement for slabs in precast concrete blocks or chairs spaced 4'-0" on center (maximum) both ways, staggered. Size blocks or chairs so the reinforcing is maintained at the proper elevation in the slab.

- D. Wherever conduits, piping, inserts, sleeves, and other embedded items interfere with placing of reinforcing steel, obtain Architect's approval of methods of procedure before concrete is placed. Bending of bars around openings and sleeves is not permitted.
- E. Tie reinforcing rigidly and securely with steel tie wire at splices, at crossing points and at intersections in the position shown on Drawings. After cutting, bed tie wire in such a manner that concrete placement will not force the wire ends to surface of concrete.
- F. Make splices only at those locations shown on the Drawings or as authorized by the Architect and Structural Engineer. Stagger splices in adjacent bars per Class "B" (50 percent within required lap length).
- G. Place welded wire fabric in as long lengths as practicable. Wire laps. Lap edges a minimum of 2 inches center to center of selvage wires with laps a minimum of 2 inches greater than transverse wire spacing; offset end laps in adjacent widths.
- H. Tie dowels securely in place before concrete is deposited. In the event there are no bars in position to which dowels may be tied, add #3 bars (minimum) to provide proper support and anchorage. Do not bend dowels after placement of concrete.
- I. Do not weld reinforcing steel and attachments to reinforcing steel unless the chemistry of the steel conforms to AWS D12.1-75. Thoroughly clean welding material and wire cuttings from forms for exposed concrete before any concrete is placed. Tack welding of bars is not permitted for fabricating cages or assemblies.

3.3 FIELD QUALITY CONTROL

A. Installation and placement of reinforcing steel will be inspected by Owner's Testing Agency prior to concrete pour.

END OF SECTION

SECTION 03 3000

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes all labor, materials, equipment, operations, or methods listed, mentioned or scheduled on the plans and/or herein specified, including all incidentals necessary and required for completion of work under this Section.
- B. Provide and install Portland cement concrete site work complete, including the following principal items:
 - 1. Concrete foundations
 - 2. Concrete slab
 - 3. Replacement concrete (patios, walks, steps, etc.)

1.2 RELATED SECTIONS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Special Conditions and Division 1 of these Contract Documents.
- B. Division 2 Earthwork.
- C. Section 03 1000 Concrete Formwork
- D. Section 03 2000 Reinforcing Steel

1.3 SUBMITTALS FOR REVIEW

- A. Section 01 3300, Submittal Procedures.
- B. The Contractor's Testing Laboratory's certificate of compliance.
- C. The Contractor shall submit:
 - 1. Certified copies of mix designs for each concrete class specified including compressive strength test reports.
 - 2. Certification that materials meet requirements specified.
 - 3. Certification from vendor that samples originate from and are representative of each lot proposed for use.
- D. The Owner's Testing Agency will submit reports on tests and inspections performed to, the Architect and Structural Engineer, and the Contractor.
- E. Schedule of placing for the Construction Manager's review before starting Work.

1.4 QUALITY ASSURANCE

- A. Reference and Standards:
 - 1. Perform work in accordance with all applicable laws, codes and regulations required by the State of California.

- 2. Reference to "Standard Specifications" shall mean the current Standard Specifications of the State of California, Business and Transportation Agency, Department of Transportation, CALTRANS.
- 3. The American Concrete Institute (ACI): "Manual of Concrete Practice," Parts 1, 2 and 3.
- 4. California Building Code (CBC).
- 5. American Society for Testing and Materials (ASTM).
- B. Stipulations:
 - 1. The Contractor shall be responsible for quality of concrete in place and shall bear burden of proof that concrete meets minimum requirements. Use the same mix design for all exposed concrete.
 - 2. Placing of concrete by means of pumping will be an acceptable method of placement providing that the Contractor can demonstrate that, specified concrete strengths will be met.

1.5 FIELD SAMPLES AND TESTS

- A. The Owner's representative will select a qualified testing laboratory to take samples for testing during the course of the work as considered necessary. The Owner will pay costs for such tests. Contractor shall cooperate in making tests and shall be responsible for notifying the designated laboratory in sufficient time to allow taking of samples at time of pour.
- B. Should tests show that concrete is below specified strength, Contractor shall remove all such concrete, as directed by the Structural Engineer. Full cost of removal of low strength concrete, its replacement with concrete of proper specified strength and testing, shall be borne by Contractor.
- C. The Testing Laboratory Qualifications: The Testing Laboratory shall be under direction of a Civil Engineer registered in the State of California, shall have operated successfully for four years prior to this work, and shall conform to requirements of ASTM E329.
- D. All samples and testing shall conform with CBC Sections-1704, 1705, and ACI 318.

1.6 COORDINATION

A. Coordinate items of other trades. Contractor shall be responsible for the proper installation of all accessories embedded in the concrete and for the provision of holes, openings, etc., necessary to the execution of the work of the trades.

1.7 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Supply ready mixed concrete throughout. Batch, mix and transport in accordance with ASTM C-94, "Specifications for Ready Mixed Concrete."
- B. Mix and deliver concrete in quantities that will permit immediate use only.
- C. Indiscriminate addition of water for any reason will be cause for rejection of the load.
- D. Ensure storage facilities are weather tight and dry.
- E. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use.

- F. Store bulk cement in bins capable of preventing exposure to moisture.
- G. Use sacked cement in chronological order of delivery. Store each shipment so that it may be readily distinguishable from other shipments.

PART 2 - PRODUCTS

2.1 CONCRETE MIXES

CLASS	STRENGTH	AGGREGATE	WEIGHT
FOUNDATIONS	3000	3/4 Maximum	145
STRUCTURAL SLAB ON GRADE	3000	3/4 Maximum	145
CONCRETE WALL	3000	3/4 Maximum	145
YARD CONCRETE, WALKS, AND CURBS	2000	3/4 Maximum	145

- A. Class: Identifies all concrete as specified.
- B. Strength: Compressive strength in psi after 28-days when tested in accordance with ASTM C39. All concrete shall develop compression strength specified in 28-days. To meet above requirements, mix shall be designed such that average compressive strength will exceed specified 28-day strength by an amount as specified by ACI 318.
- C. Aggregate: Maximum size in inches.
- D. Weight: Pounds per cubic foot, air dry.
- E. Slump: In inches when tested in accordance with ASTM C143.
- F. Concrete mixes shall be in accordance with CalTrans Standard Specifications Section 90.

2.2 CONCRETE MATERIALS

- A. General Requirements:
 - 1. All materials shall be Local/Regional Materials.
 - 2. Cement and aggregates shall have proven history of successful use with one another. Sources of cement and aggregate shall remain unchanged throughout work unless the Architect and Structural Engineer approves request for change made at least 10-days prior to anticipated date of casting.
 - 3. Ready-mixed concrete shall meet requirements of ASTM C94.
 - 4. Deviations in properties of materials tested by the Testing Agency shall be cause for their rejection pending additional test results and redesign of mix.
 - 5. No frozen aggregates will be permitted.
- B. Cements:
 - 1. ASTM C150, Type II. Use one brand of cement throughout project unless otherwise acceptable to Architect and Structural Engineer.
 - 2. Maximum water/cement ratio of 0.45 for all cast-in-place concrete.
 - 3. Maximum water/cement ratio of 0.60 for yard concrete, walks, and curbs.
- C. Fly Ash: ASTM C618, Type F; 15% (as percentage replacement of cement)

- D. Aggregates:
 - 1. Coarse: ASTM C33. Coarse aggregate shall consist of a clean, hard, fine grained, sound crushed rock, or washed gravel or a combination of both. It shall be free from oil, organic matter or other deleterious substances and shall not contain more than two percent by weight of shale or cherty material. "Cleanness value shall not be less than 75 when tested per MM Test Method, 227 and conforming to CBC Section 1903A.4.2.
 - 2. Fines: ASTM C33. Sand equivalent shall be not less than 75 when tested as per ASTM D2419.
 - 3. Provide aggregates from a single source for exposed concrete.
- E. Water: Clean and potable, free from impurities detrimental to concrete.
- F. Water-Reducing Admixture: Must be compatible with color pigments where required. ASTM C494, Type A, that does not contain non-lignini sulfonate. Same as Grace Construction Materials' "WRDA" with hycol; Master Builders "Pozzolith" 322N; or equal product substituted per Section 01260, Modification Procedures.
- G. Other Admixtures: Only as accepted by the Architect and Structural Engineer.
- H. Non-Shrink Grout: 5000 PSI compressive strength non-shrink grout as manufactured by Sakrete or equal product substituted per Section 01260, Modification Procedures.
- I. Curing Materials: Curing Compound: ASTM C309. Water loss not more than 0.55 kg/m2 in 72 hours; Light Reflectance not less than 60%. Same as Grace Construction Materials' "Horn Clear Seal"; Grimes Co.'s "Sealcrete"; Master Builders' "Masterseal W", or equal product substituted per Section 01260, Modification Procedures.

2.3 ANCILLARY MATERIALS

A. Concrete Sealer: As manufactured by L. M. Scofield Co. or silicone-based, non-staining product such as Siloxane as manufactured by Prosoco and available from White Cap (415) 626-3750 and as accepted by Structural Engineer.

2.4 MIXES

- A. General Requirements:
 - 1. The Contractor shall perform tests or assemble the necessary data indicating conformance with specifications.
 - 2. For each mix submit data showing that proposed mix will attain the required strength in accordance with requirements of ACI 318.
 - 3. The Contractor shall instruct Laboratory to base mix design on use of materials tested and approved by the Owner's Testing Agency.
 - 4. Mix design shall include compression strength test reports per CBC Section 1704.
 - 5. Mix shall be designed, tested, and adjusted if necessary in ample time before first concrete is scheduled to be placed. Laboratory data and strength test results for revised mix design shall be submitted to Architect and Structural Engineer prior to using in project.
 - 6. Insure mix designs will produce concrete to strengths specified and of uniform density without segregation.

- 7. If mix yield exceeds 1-cubic yard, modify mix design to no more than one cubic yard without changing cement content.
- 8. The Contractor's mix designs shall be subject to review by the Architect and Structural Engineer and by the Owner's Testing Agency.
- 9. Introduction of calcium chloride will not be permitted.
- 10. Unspecified admixtures will not be permitted unless the Architect and Structural Engineer reviews, the Contractor modifies mix designs as necessary, and modifications are accepted by the Testing Agency.
- B. Patching Mortar: Mix in proportions by volume of one part cement to two parts fine sand.
- C. Non-Shrink Grout: Follow approved manufacturer's printed instructions and recommendations.

2.5 MIXING

- A. Batching Plant Conditions:
 - 1. Ensure equipment and plant will afford accurate weighing, minimize segregation and will efficiently handle all materials to satisfaction of the Architect, Structural Engineer and the Owner's Testing Agency.
 - 2. Replace at no additional expense equipment the Architect, Structural Engineer and the Owner's Testing Agency deem inadequate or unsuitable.
 - 3. Use approved moisture meter capable of determining moisture content of sand.
- B. General Requirements:
 - 1. Thoroughly clean concrete equipment before use for Architectural concrete mixes to avoid contamination.
 - 2. Mix cement, fine and coarse aggregates, admixtures and water to exact proportions of mix designs. Method of mixing shall comply with CBC Section 1905A.8.
 - 3. Measure fine and coarse aggregates separately according to approved method which provides accurate control and easy checking.
 - 4. Adjust grading to improve workability; do not add water unless otherwise directed.
 - 5. Maintain proportions, values, or factors of approved mixes throughout work.
 - 6. Mix concrete in transit mixers five minutes immediately prior to discharge in addition to mixing as called for by ACI 304 and ASTM C94.
- C. Admixtures: Use automatic metering dispenser to introduce admixture into mix. Dispenser shall be recommended and calibrated by admixture manufacturer.

2.6 SOURCE QUALITY CONTROL

- A. The Owner's Testing Agency will:
 - 1. Review mix designs, certificates of compliance, and samples of materials the Contractor proposes to use.
 - 2. Test and inspect materials, as necessary, in accordance with ACI 318 and CBC Sections 1704 and 1705 for compliance with requirements.
 - 3. Take samples as required from the Contractor's designated sources.
 - 4. Take one grab sample for each 100 tons of Portland cement except that, when used in bulk loading ready-mix plants where separate bins for pre-tested cement are not available, take grab samples for each shipment of cement placed in bin

with not less than one sample being taken for each day's pour and subsequently test such samples if required by the Architect and Structural Engineer.

- 5. Test both coarse and fine aggregate by use of solution of sodium or magnesium sulfate, or both whenever in the judgment of the Architect and Structural Engineer such tests are necessary to determine quality of material. Perform such tests in accordance with ASTM C88. Loss shall not exceed 6-percent of either fine or coarse aggregate. Aggregate failing to comply with this requirement may be used in the Work provided it contains less than 2- percent of shale and other deleterious particles and shows a loss in soundness test of not more than 10-percent when tested in the sodium sulphate solution. Test aggregates as required by ACI 318.
- 6. Test for sand equivalent of fine aggregate in accordance with California Test 217.
- 7. Test for cleanness value of coarse aggregate in accordance with California Test 227.
- 8. Inspect plant prior to any work to verify following:
 - a. Plant is equipped with approved metering devices for determining moisture content of fine aggregate.
 - b. Other plant quality controls are adequate.
- 9. Continuously inspect quality and quantity of materials used in transit mixed concrete, in batched aggregates and ready-mixed concrete at mixing plant or other location per ACI 318 where other materials are measured.
- B. Waiver of Batch Plant Inspection:
 - The concrete supplier shall furnish to the Architect and Structural Engineer certification that the cement proposed conforms to the requirements of ACI 318:
 - a. Testing Agency shall check the first batching at the start of work and furnish mix proportions to the licensed Weighmaster.
 - b. Licensed Weighmaster shall identify material quantities and certify each load by a ticket.
 - c. Testing Agency shall collect truck mix tickets with load identification and maintain a daily record of placement. Trucks without a load ticket identifying the mix shall be rejected. Copies of daily placement record shall be submitted to Architect and Structural Engineer.
 - d. At the end of the project, the Weighmaster shall submit an affidavit to Architect and Structural Engineer certifying that all concrete supplied conforms to proportions established by mix designs.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

1.

- A. Install all concrete work true to line and grade as indicated on the drawings. Installation shall conform with the standards and requirements of ACI 117-06-Specifications for Tolerance for concrete construction and materials.
- B. Correct irregularities to the satisfaction of the Architect and Structural Engineer.

3.2 PREPARATION

- A. Take every precaution to obtain a subgrade of uniform bearing power by compaction to provide a firm base.
- B. Subgrade shall be kept moist and shall not be allowed to dry out before placement of concrete. Place no material on muddy subgrade.

- C. Obtain acceptance of the subgrade from the Project Soils Engineer prior to placement of capillary break, moisture barrier and sand.
- D. Obtain acceptance of subgrade from Soils Engineer prior to placing steel and concrete.

3.3 PLACING CONCRETE

- A. The Architect, Structural Engineer, and Testing Laboratory shall be notified at least 48 hours before placing concrete.
- B. Place concrete in accordance with ACI 318.
- C. Place concrete in cycles as a continuous operation to permit proper and thorough integration and to complete scheduled placement. Place no concrete where sun, wind, heat, or facilities prevent proper finishing and curing.
- D. Convey concrete as rapidly and directly as practicable to preserve quality and to prevent separation from rehandling and flowing; do not deposit concrete initially set. Cast concrete within ninety (90) minutes after adding water unless otherwise noted. Retempering of concrete which has partially set will not be permitted.
- E. Take precautions to avoid damage to under-slab moisture barrier and displacement of reinforcement and formwork.
- F. Deposit concrete vertically in its final position. Avoid free falls in excess of six feet where reinforcement will cause segregation and in typical conditions unless the Architect and the Structural Engineer approves otherwise.
- G. Keep forms and reinforcement clean above pour line by removing clinging concrete with wire brush before casting next lift. Also remove leakage through forms.
- H. Interruption in casting longer than 60-minutes shall be cause for discontinuing casting for remainder of day. In this event, cut back concrete and provide construction joints as the Architect directs; clean forms and reinforcement as necessary to receive concrete at a later time.
- I. Hot Weather Concreting: Conform to ACI 305 and following requirements when mean daily temperature rises above 75 degrees Fahrenheit.
 - An upper temperature limit of concrete mixes shall be established by the Contractor for each class of concrete. Concrete temperature during placing shall not be so high as to cause difficulty from loss of slump, flash set, or cold joints, and shall not exceed 90°F. Other project climatic conditions detrimental to concrete quality such as relative humidity, wind velocity, and solar radiation shall also be considered.
 - Trial batches of concrete for each mix design shall be made at the limiting mix temperature selected. In lieu of trial batches, compression strength test reports (20 minimum) at the limiting temperature for each proposed mix shall be submitted to the Owner's testing laboratory for review.
 - 3. Practices to maintain concrete below maximum limiting temperature shall be in accordance with ACI 305. Concrete ingredients may be cooled before mixing, or flake ice or well-crushed ice of a size that will melt completely during mixing may be substituted for part of the mixing water.

- 4. Practices to avoid the potential problems of hot weather concreting shall be employed by the Contractor in accordance with ACI 305.
- 5. When the temperature of the reinforcing steel or steel deck forms is greater than 120°F, reinforcing and forms shall be sprayed with water just prior to placing the concrete.
- J. Cold Weather Concreting:
 - 1. No placement of concrete will be allowed at temperatures below 20 degrees Fahrenheit or if mean daily temperature for curing period is anticipated to be below 20 degrees Fahrenheit.
 - 2. No concrete placement will be allowed on frozen subgrade.
 - 3. Conform to ACI 306 and following requirements when mean daily temperature falls below 40 degrees Fahrenheit.
 - a. Reinforcement, forms or ground to receive concrete shall be completely free from frost.
 - b. Concrete at time of placement for footings shall have temperature no lower than 50 degrees Fahrenheit, for all other concrete this minimum temperature at time of placement shall be 60 degrees Fahrenheit.
 Maximum temperature shall be 90 degrees Fahrenheit.
 - c. Concrete shall be maintained at temperature no lower than 50 degrees Fahrenheit for minimum 7-day period after placement by means of blanket insulation, heaters, or other methods as approved by the Architect and Structural Engineer.
 - d. Use of calcium chloride or admixtures containing calcium chloride as accelerators will not be permitted.
 - e. The Contractor shall keep a record of concrete surface temperature for first 7-days after each pour. This record shall be open to inspection by the Structural Engineer.
- K. Consolidating:
 - 1. Use vibrators for thorough consolidation of concrete.
 - 2. Provide vibrators for each location during simultaneous placing to ensure timely consolidation around reinforcement, embedded items and into corners of forms; ensure availability of spare vibrators in case of failures. Vibrate through full depth of freshly placed concrete.
 - 3. Do not place vibrators against reinforcement, attach to forms, or use to spread concrete.
 - 4. Exposed Concrete: Vibrate with rubber type heads and, in addition, spade along forms with flat strap or plate.
- L. Construction Joints:
 - 1. Verify location and conformance with typical details; provide only where designated or approved by the Architect and Structural Engineer. Comply with CBC Section 1906A.4.
 - 2. All horizontal and vertical construction joints to be thoroughly sandblasted to clean and roughen entire surface to minimum 1/4-inch relief exposing clean coarse aggregate solidly embedded in mortar matrix.
 - 3. Just prior to depositing concrete, the surface of the construction joint shall be thoroughly wetted.
- M. Walls and Other Formed Elements:
 - 1. Space points of deposit to eliminate need for lateral flow. Placing procedures of concrete in forms permitting escape of mortar, or flow of concrete itself, will not be permitted.

- 2. Level top surface upon stopping work.
- 3. Take special care to fill each part of the forms by depositing concrete directly as near final position as possible, and to force concrete under and around reinforcement, embedded items, without displacement.
- 4. After concrete has taken its initial set, care shall be exercised to avoid jarring forms or placing any strain on ends of projecting reinforcement.
- 5. Where backfill is placed against a wall, it shall be adequately shored until it has attained design strength. All shoring shall be designed by a structural engineer licensed in the State of California. Signed calculations and shoring drawings shall be submitted to the EOR for review.

3.4 CURING

- A. General Requirements:
 - 1. Take curing measures immediately after casting and for measures other than application of curing compound, extend for seven days. The Architect and Structural Engineer may recommend longer periods based upon prevailing temperature, wind and relative humidity. Comply with ACI 318.
 - 2. Avoid alternate wetting and drying and fluctuations of concrete temperature.
 - 3. Protect fresh concrete from direct rays of sun, rain, freezing, drying winds, soiling, and damage.
 - 4. Do not permit curing method to affect adversely finishes or treatments applied to finish concrete.
- B. Curing Method, Typical: Obtain the Architect's and Structural Engineer's approval of alternate measures.
 - 1. Keep forms and concrete surfaces moist during period forms are required to remain in place.
- C. Cure exposed concrete in accordance with CalTrans Standard Specifications Section 90.
- D. Only water shall be used for curing concrete.

3.5 FIELD QUALITY CONTROL

- A. The Testing Laboratory will sample and test cast-in-place concrete as required by the Division of State Architects. Tests, if required, will be made in accordance with ACI 318 and CBC Section 1704 and 1705.
 - 1. Review concrete mix designs.
 - 2. Inspect concrete and grout placement continuously.
 - 3. Test concrete to control slumps according to ASTM C143.
 - 4. Continuously monitor concrete temperature as it arrives on the site.
 - 5. Test concrete for required compressive strength in accordance with ACI 318:
 - a. Make and cure three specimen cylinders according to ASTM C31 for each 50 cubic yards, or fraction thereof, of each class poured at site each day.
 - b. Retain one cylinder for 7-day test and two for the 28-day test.
 - c. Number each cylinder 1A, 1B, 1C, 2A, 2B, 2C, etc; date each set; and keep accurate record of pour each set represents.
 - d. Transport specimen cylinders from job to laboratory after cylinders have cured for 24-hours on site. Cylinders shall be covered and kept at air temperatures between 60 and 80 degrees Fahrenheit.
 - e. Test specimen cylinders at age 7-days and age 28-days for specified strength according to ASTM C39.

- f. Base strength value on average of two cylinders taken for 28-day test.
- 6. Test and inspect materials, as necessary, in accordance with ACI 318, MM Test Method 227 (Coarse Aggregates) and MM Test Method 217 (Fine Aggregates), for compliance with requirements specified in this Section.
- B. The Contractor shall:
 - 1. Submit ticket for each batch of concrete delivered to job site. Ticket shall bear the following information:
 - a. Design mix number.
 - b. Signature or initials of ready mix representative.
 - c. Time of batching.
 - d. Weight of cement, aggregates, water and admixtures in each batch with maximum aggregate size.
 - e. Total volume of concrete in each batch.
 - f. Notation to indicate equipment was checked for contaminants prior to batching.
 - 2. Pay the Testing Agency for taking core specimens of hardened structure and testing specimen according to ASTM C88 and C42 when laboratory tests of specimen cylinders show compressive strengths below specified minimum.

3.6 CLEANING, PATCHING AND DEFECTIVE WORK

- A. Where concrete is under strength, out of line, level or plumb, or shows objectionable cracks, honeycombing, rock pockets, voids, spalling, exposed reinforcement, signs of freezing or is otherwise defective, and, in the Architect's and Structural Engineer's judgment, these defects impair proper strength or appearance of the work, the Architect and Structural Engineer will require its removal and replacement at the Contractor's expense.
- B. Immediately after stripping and before concrete is thoroughly dry, patch minor defects, form-tie holes, honeycombed areas, etc., with patching mortar. Patch shall match finish of adjacent surface unless otherwise noted. Remove ledges and bulges.
- C. Compact mortar into place and neatly file defective surfaces to produce level, true planes. After initial set, dress surfaces of patches mechanically or manually to obtain same texture as surrounding surfaces.
- D. Rock Pockets:
 - 1. Cut out to full solid surface and form key.
 - 2. Thoroughly wet before casting mortar.
 - 3. Where the Architect and Structural Engineer deems rock pocket too large for satisfactory mortar patching as described, cut out defective section to solid surface, key and pack solid with concrete to produce firm bond and match adjacent surface.
- E. Cleaning
 - 1. Insure removal of bituminous materials, form release agents, bond breakers, curing compounds if permitted and other materials employed in work of concreting which would otherwise prevent proper application of sealants, liquid waterproofing, and other delayed finishes and treatments.
 - 2. Where cleaning is required, take care not to damage surrounding surfaces or leave residue from cleaning agents.

3.7 PROTECTION

- A. Protect concrete from injurious action of the elements and defacement of any nature during construction operations.
- B. Protect exposed corners of concrete from traffic or use which will damage them in any way.
- C. Make provisions to keep all exposed concrete free from laitance caused by spillage or leaking forms or other contaminants. Do not allow laitance to penetrate, stain, or harden on surfaces which have been textured.
- D. Remove and replace pavement that does not comply with requirements in this Section.
- E. Protect pavement from damage. Do not permit construction traffic on concrete pavement. Exclude other traffic from pavement for at least 28 days after placement.
- F. Maintain pavement free of stains, discoloration, dirt, and other foreign material. Sweep pavement not more than two days before date scheduled for Substantial Completion inspections.

3.8 DEFECTIVE CONCRETE

A. If any concrete work is not formed as indicated, is under strength concrete, is concrete is out of line, level or plumb, or showing objectionable cracks, honeycomb, rock pockets, voids, spalling or exposed reinforcing, it shall be removed, repaired or replaced as directed by the Structural Engineer.

3.9 CLEANING

- A. During construction, wash off work as quickly as possible when stains or splotches are unavoidable.
- B. Upon completion, clean exposed surfaces carefully. Brushing and cleaning solution, if used, must be preceded and followed with a through rinsing of clear water. No sandblasting will be allowed to clean surfaces.
- C. Remove from premises; equipment, debris and surplus material needed for, or resulting from, this work. Remove all concrete waste from planting areas and legally dispose of it.
- D. All work shall be left in a condition satisfactory to the Architect and Structural Engineer.
- E. Perform Work under this Section to keep affected portions of building site neat, clean, and orderly. Remove, immediately upon completion of Work under this Section, surplus materials, rubbish, and equipment associated with or used in performance. Be aware that failure to perform clean-up operations within 24 hours of notice by Architect and Structural Engineer will be considered adequate grounds for having work done by others at no added expense to the Owner.

END OF SECTION

DOCUMENT 03 33 00

SITE CONCRETE

PART 1 - GENERAL

1.1 SCOPE

A. Furnish and install all concrete as shown and specified. This work includes, but is not necessarily limited to concrete landing, poured in place concrete stepping stones, and miscellaneous items.

1.2 STANDARDS

- A. Unless otherwise shown or specified, all materials and methods shall conform to the appropriate current sections of:
 - 1. City Standards for Public Improvements.
 - 2. The State of California, Department of Transportation Standard Specifications (DTSS) sections 52, 73 and 90 except for measurement and payment requirements.
 - 3. Applicable ASTM Specifications as they reasonably apply to this work, except for measurement and payment requirements.
 - 4. American Concrete Institute (ACI), current standards.

1.3 TOLERANCES

- A. Tolerances for subgrade, subbase and finished grade shall be as specified by DTSS except that Contractor shall deliver the full aggregate base and concrete thickness shown. No combination of high and low tolerances that compromise the section will be permitted.
- B. Concrete Final Finishes: The Contractor shall demonstrate to the satisfaction of County's Representative that he, or his subcontractor, possesses sufficient skills and experience to perform the work. Photographs and/or site visits of past work may be required to supply this information. A 4' x 4' sample of the concrete landing and a 2' x 2' sample of the poured in place concrete stepping stone shall be poured and finished at the site for County's Representative's review prior to commencing concrete pouring. Once the samples have been reviewed, the Contractor shall meet or exceed that quality of finish in all subsequent work. Contractor shall be responsible for removal of the samples at the completion of the work.
- C. Color Samples: Shall be provided with the concrete final finish sample.
- D. Submittals: The following shall be submitted by the Contractor to the Engineer in accordance with the applicable portions of the referenced specifications:
 - 1. The proposed mix design, giving the brand of cement, type, gradations and source of aggregates, water/cement ratio, mix proportions, and unit weight.
 - 2. Manufacturer's literature for admixtures, embedded items, liquid membrane-form curing compound and non-shrink grout.
 - 3. Certification that materials are in compliance with specification requirements.
 - 4. Method of transporting and placing concrete.

1.4 JOB CONDITIONS

- A. Weather Limitations: Construct concrete surface course only when atmospheric temperature is above 40 degrees F., when the underlying base is dry, and when weather is not rainy.
- B. Grade Control: Establish and maintain the required lines and grades, including crossslope during construction operations. All concrete shall slope to drain with no ponding of water.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Forms and Reinforcing: Per section 52.
- B. Concrete: All sidewalks, curbs, curb and gutter, curb ramps and driveways shall conform to Section 73 of the DTSS "Minor Concrete". All other concrete structures shall conform to Section 90 of the DTSS "Minor Concrete".
 - 1. Cement: Type II modified conforming to ASTM-C-150-02a.
 - 2. Aggregate: Shall not be less than 3/8" or more than 1 inch in size.
 - 3. Compression strength at 28 days to be a minimum 3,000 p.s.i.
- C. Color Admixture:
 - 1. For concrete landings, poured in place concrete stepping stones, and other concrete within the asphaltic concrete add Hi-con black at a rate of 1/8 lb. per sack.
- D. Expansion Joint Filler: Fibre expansion joint, 3/8" by W.R. Meadows or approved equal. Available through Westside Concrete Materials, (408) 947-8606, 610 McKendrie Street, San Jose, CA 95110.
- E. Cleaning Agents: As required.
- F. Aggregate Base: Class II per (DTSS).

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clear area to be paved of all debris and organic material. Recompact and regrade as necessary prior to placement of concrete. Verify that the subgrade and/or aggregate base is properly compacted and at suitable grade.
- B. Before beginning paving work and during construction, take all steps necessary for protection of existing improvements. As the concrete is being placed, extreme care shall be taken not to discolor or damage any improvements. If damage occurs, repair same, and if satisfactory repair cannot be made, remove and replace the section as directed.
- C. Formwork and Reinforcement:
 - 1. Assure that excavations and formwork are completed.
 - 2. Check that reinforcement is secured in place.

3. Verify that expansion joint material, anchors, and other embedded items are secured in position.

3.2 INSTALLATION

- A. Finishes
 - 1. Broom Finish: Apply to concrete landing and poured in place concrete stepping stones. Provide a light broom finish with strokes perpendicular to direction of travel along walks.
- B. Waterproofing: Apply to wall as shown on drawing per manufacturer's instructions.
- 3.3 CLEAN UP: Upon completion of the work under this section, remove immediately all surplus materials, rubbish, and equipment associated with or used in the performance of this work.

PART 4 - MEASUREMENT AND PAYMENT

- 4.1 The contract price paid per square foot for Concrete Landing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Concrete Landing and related incidental work.
- 4.2 The contract price paid per square foot for Poured In Place Concrete Stepping Stone shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Poured In Place Concrete Stepping Stone and related incidental work.

END OF DOCUMENT 03 33 00

SECTION 05 1200

STRUCTURAL STEEL

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes all labor, materials, equipment, operations, or methods listed, mentioned or scheduled on the plans and/or herein specified, including all incidentals necessary and required for completion of work under this Section.
- B. Provide and install structural steel work as indicated on the project Drawings and as specified herein, including, but not limited to:
 - 1. All structural steel beams, columns, plates, fabricated connections and elevator rail, rail supports and hoist beam.
 - 2. Erection of all structural steel and temporary bracing.
- C. Testing Laboratory for specified tests and inspections.
- D. Retesting or reinspecting due to defective materials or workmanship will be back charged to the Contractor.

1.2 RELATED SECTIONS

A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Special Conditions and Division 1 of these Contract Documents.

1.3 SUBMITTALS

A. Comply with provisions of Section 01 3300 Submittal Procedures.

1.4 QUALITY ASSURANCE

- A. All work shall conform to the 2016 California Building Code.
- B. Fabricator and Erector shall have been regularly engaged at least 3 years in the fabrication and erection of structural steel.
- C. Welders shall be qualified in accordance with AWS D1.0.
- D. A certified copy of the mill test on each heat of steel to be supplied shall be submitted to the Structural Engineer and reviewed by the Testing Laboratory prior to fabrication. The cost of testing due to lack of mill test will be back charged to the Contractor.
- E. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Division 1 General Requirements of these Specifications.

1.5 PRODUCT DELIVERY STORAGE AND HANDLING

A. Delivery of materials to be installed under other Sections.

- 1. Anchor bolts and other anchorage devices which are embedded in cast-in-place concrete or masonry construction shall be delivered to the project site in time to be installed before the start of cast-in-place concrete or masonry work.
- 2. Provide setting drawings, templates, and directions for the installation of the anchor bolts and other devices.
- B. Storage Materials:
 - 1. Structural steel members which are stored at the project site shall be above ground on platforms, skids or other supports.
 - 2. Steel shall be protected from corrosion.
 - 3. Other materials shall be stored in a weather tight and dry place, until ready for use in the work.
 - 4. Packaged materials shall be stored in their original unbroken package or container.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Angles, Channels, Bars and Plates shall conform to ASTM A36.
- B. Wide Flange Beams and Columns shall conform to ASTM A992 Fy=50ksi.
- C. Machine Bolts shall conform to ASTM A307.
- D. Nuts shall conform to ASTM A563.
- E. Welding electrodes shall conform to AWS A5.5 E71-T6 or T8.
- F. Primer conforming with Federal Specification TT-P-645A.
- G. Hollow structural steel and tube steel shall conform to ASTM A500, Grade B.
- H. Hot dip and cold process galvanizing ASTM A123 and ASTM A780.

2.2 SOURCE QUALITY CONTROL

- A. Testing Agency shall perform the following:
 - 1. Review mill test certificates and verify that material to be supplied matches the mill certificates and complies with AISC 360.
 - 2. Determine mechanical properties of all structural steel lacking mill test certificates.
 - 3. Qualification of shop welding procedures and personnel.
 - 4. Initial inspection of shop welding start up and periodic inspection, as required to verify conformance to the contract documents, thereafter. Provide full time inspection of all butt welds and any other welds indicated to be inspected on the drawings.

PART 3 - EXECUTION

3.1 FABRICATION

A. Fabricate Structural Steel in accordance with the AISC Specifications and Code of Standard Practice.

- B. All exposed structural steel shall be hot dipped galvanized after fabrication. All other structural steel shall be shop primed except areas to receive field welding.
- C. All welded connections shall be cleaned and cold processed galvanized or primed as applicable, in the field after welding.

3.2 ERECTION

- A. Erect structural steel in accordance with the AISC Specifications and Code of Standard Practice.
- B. Field Assembly:
 - 1. Structural Steel frames shall be accurately assembled to the lines and elevations indicated, within the specified erection tolerances.
 - 2. Bearing surfaces and surfaces which will be in permanent contact shall be cleaned before the members are assembled.
 - 3. Splices shall be permitted only where indicated.
 - 4. All steel framing shall be adequately anchored and braced to insure safety.
- C. Gas cutting shall not be permitted on any structural steel members. All holes shall be punched or drilled.
- D. Errors in shop fabrication or deformation resulting from handling that prevent proper assembly and fitting of parts shall be reported to the Architect and Structural Engineer and approval of the method of correction shall be obtained. Corrections shall be made at no additional cost.
- E. Welded Connections:
 - 1. All welded connections shall be a prequalified type per AISC Manual of Steel Construction.
 - 2. All butt welds shall be complete penetration with required backing plates, except where specifically referenced as partial penetration on the structural drawings.

3.3 FIELD QUALITY CONTROL

- A. The Testing Agency shall perform the following:
 - 1. Qualification of field welding procedures and personnel.
 - 2. Provide full time inspection of all field welding of structural members, except single pass filet welds, which may be inspected periodically.
- B. Provide any tests required to insure the quality of the welds indicated on the drawings.

END OF SECTION

SECTION 05 52 00

METAL RAILINGS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Structural Performance: Provide railings capable of withstanding structural loads required by ASCE 7.
- B. Submittals: Shop Drawings and manufacturer's available colors.

PART 2 - PRODUCTS

2.1 METALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Pipe: ASTM A 53, Schedule 40.
- C. Steel Tubing: ASTM A 500 (cold formed) or ASTM A 513, Type 5 (mandrel drawn).
- D. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

2.2 FABRICATION

- A. Assemble railing systems in shop to the greatest extent possible. Use connections that maintain structural value of joined pieces.
- B. Form changes in direction of railing members by mitering at elbow bends.
- C. Fabricate railing systems and handrails for connecting members by welding.
- D. Provide standard wall brackets, flanges, miscellaneous fittings, and anchors to connect handrail and railing members to other construction.
- E. Provide wall returns at ends of wall-mounted handrails.

2.3 FINISHES

A. Steel Railings: Hot-dip galvanized after fabrication, ASTM A 123; cleaned and shop primed after galvanizing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Fit exposed connections accurately together to form tight, hairline joints.
- B. Set railings accurately in location, alignment, elevation and free of rack.
- C. Anchor posts in concrete by forming or core-drilling holes 5 inches deep and 3/4 inch greater than OD of post. Fill annular space between post and concrete with nonshrink, nonmetallic grout.
- D. Guard posts are to be attached as specified by structural engineer for resistance to code-specified load.
- E. Attach handrails to wall with wall brackets.

END OF SECTION 055200

SECTION 06 1000

ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes all labor, materials, equipment, operations, or methods listed, mentioned or scheduled on the plans and/or herein specified, including all incidentals necessary and required for completion of work under this Section.
- B. Provide and install rough carpentry work shown on the project Drawings, including but not limited to:
 - 1. Wood framing, sheathing, blocking, furring, nailers, backing panels for utilities, miscellaneous wood, connectors and hardware.

1.2 RELATED SECTIONS

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Special Conditions and Division 1 of these Contract Documents.
- B. Section 05 1200, Structural Steel

1.3 SUBMITTALS

A. Comply with provisions of Section 01 3300, Submittal Procedures.

1.4 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Dimension Lumber: surfaced 4 sides, 19% maximum moisture content, manufactured and graded per WWPA grading rules and all pieces grade stamped:
 - 1. Sills: AWPA Preservative Treated DF No 2 or Foundation Grade Redwood
 - 2. Joists, Rafters, Beams, Headers: up to 4x DF No 1, 6x DF Dense No 1
 - 3. Purlins: DF No 1
 - 4. Studs: DF No 2
 - 5. Post and Double Top Plates: DF No 1
 - 6. T&G Decking DF Select Structural Dry (15% Moisture content)
- B. Miscellaneous Lumber; blocking, furring, nailers, sleepers, bucks, grounds and cant strips: DF No 3 or Stud, surface 4 sides, 19% maximum moisture content. Pressure

preservative treat items exposed to weather or in contact with roofing, flashing, waterproofing, masonry, concrete or the ground.

- C. Plywood: APA rated, Exterior Exposure, manufactured per US Product Standard PS 1-83 for Construction and Industrial Plywood. All plies shall be group 1 or 2 species, minimum five plies. Each sheet shall stamped with the PS and/or APA grade mark:
 - 1. Floor Sheathing at Rood Deck: 1-1/8" CDX T&G, 7 ply, C-C plugged with exterior glue (Exposure 1), span rating 48" o.c., species group 2 or better.
 - 2. Wall Sheathing: ¹/₂" CDX, 3 ply with exterior glue (Exposure 1), C-D plugged; species group 2 or better, identification index 24/0.
 - 3. Backing panels: C-D plugged interior with exterior glue, ½" thick.
- D. Wood Treatment
 - 1. Treat all above ground wood exposed to deterioration by moisture and all wood in contact with concrete, the ground, or fresh water.
 - 2. Lumber, Timbers, Bridge and Mine Ties in ground contact, concrete contact, exposed to moisture or fresh water - Preservative treatment: Pressure-treated with waterborne preservatives, to comply with AWPA Pressure treating standard C2. Minimum net retention shall be .4 pounds per cubic feet.
 - 3. Pressure-treated lumber and plywood to bear approved quality mark by an accredited ALSC third party inspection agency to assure treatment is in conformance with appropriate AWPA standards.
 - 4. Handling, fabrication, field treating and disposal of cutoffs shall be in conformance with AWPA M4. Field treat with Copper Naphthenate solution with preservative concentration of no less than 2% copper metal.
 - 5. Kiln dry after treatment to 19% maximum moisture content for lumber, and 15% for plywood.
 - 6. Precautions for wood preservatives and treatment:
 - a. Post "Consumer Information Sheet: and "Material Safety Data Sheet: as required by California Proposition 65.
 - b. Store treated lumber and plywood only within a secure fenced area.
 - c. Take all possible steps to prevent unlawful use or disposal. Take all possible steps to insure that treated wood scraps are not burned.
 - d. Build an approved "Dip Tank" for flood coating and treating cut ends of wood members.
 - e. Keep wood preservative and dip tank in a cool and ventilated locked enclosure when not in use.
- E. Fasteners
 - 1. All nailing for structural work shall be in conformance with CBC Table 2304.10.1 Nailing Schedule. All nails exposed to earth, pressure treated lumber or weather shall be hot dipped galvanized or shall be of stainless steel.
 - 2. Pneumatically driven nails will be allowed only upon submission of ICBO reports approving the nails for the use intended and with an equivalent load capacity as for the common wire nail specified. Pneumatically driven nails shall be driven flush with the surface of the wood.
 - 3. All machine bolts shall conform to the requirements of ASTM Standard A 307, Grade A. All machine bolts, nuts and washers exposed to earth, pressure treated lumber or weather in the completed structure shall be hot dipped galvanized.
 - 4. Bolts shall be installed with cut washers under the heads and/or nuts where the head or nut would otherwise bear on the wood.
 - 5. All connectors and fasteners exposed to earth, pressure treated lumber or weather in the completed structure or treated lumber shall be hot dip galvanized after fabrication or Type 304 and 316 stainless steel. Never mix galvanized steel

with stainless steel in the same connection to prevent physical contact of dissimilar metals.

- F. Metal Framing Devices
 - Proprietary framing devices Manufactured by Simpson Strong-Tie Company or approved equal, installed in conformance with the manufacturer's specifications. All specified fasteners must be installed. All such fasteners shall be of the largest size and quantity specified in the manufacturers published schedules, unless noted otherwise. All connectors and fasteners exposed to weather shall be hot dip galvanized after fabrication.
 - 2. Fabricated Metal Devices: per Section 051200, Structural Steel.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Construction methods and project safety: the contract documents represent the finished structure and do not indicate methods, procedures or sequence of construction. Take necessary precautions to maintain and ensure the integrity of the structure during construction. Contractor shall design, construct and maintain all safety devices, including shoring and bracing, and solely responsible for conforming to all local, state and federal safety and health standards, laws and regulations.
- B. Wood framing: Comply with recommendations of CBC Chapter 23, Division IV Conventional Light Frame Construction, and NDS National Design Specifications for Wood Construction.
- C. Plywood: Comply with recommendations of APA Design and Construction Guide -Residential and Commercial. Space panel ends and edges with 1/8" minimum gap. Where wet or humid conditions prevail, double this spacing.
- D. Provide nailers, blocking and grounds where required. Set work plumb, level and accurately cut. Fire and draft blocks shall be as specified per CBC.
- E. Install materials and systems in accordance with manufacturer's instructions and approved submittals. Install materials and systems in proper relation with adjacent construction. Coordinate with other work.
- F. Comply with manufacturer's requirements for cutting, handling, fastening and working with treated materials.

END OF SECTION

SECTION 06 20 13

EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Exterior wood trim and stairs.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product.
- B. Samples: For each type of product involving selection of colors, profiles, or textures.

1.3 INFORMATIONAL SUBMITTALS

- A. Compliance Certificates:
 - 1. For lumber that is not marked with grade stamp.
 - 2. For preservative-treated wood that is not marked with treatment-quality mark.
- B. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated wood.
 - 2. Cellular PVC trim.
 - 3. Foam plastic moldings.

PART 2 - PRODUCTS

- 2.1 MATERIALS, GENERAL
 - 1. Exterior trim.
 - 2. Exterior lumber siding.
 - B. Lumber: DOC PS 20.
 - 1. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.
 - a. For exposed lumber, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by inspection agency.
 - C. Softwood Plywood: DOC PS 1.

D. Hardboard: ANSI A135.4.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b.
 - 1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 18 percent respectively.
 - 2. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

2.3 EXTERIOR TRIM

- A. Lumber Trim:
 - 1. Species and Grade: Western red cedar, NLGA, WCLIB, or WWPA.
 - 2. Maximum Moisture Content: 15 percent.
 - 3. Face Surface: Surfaced (smooth)
- B. Moldings: WMMPA WM 4, N-grade wood moldings, without finger jointing. Made from kiln-dried stock to patterns included in WMMPA WM 12.
 - 1. Species: Western red cedar
- C. MDO Trim: Exterior Grade B-B, MDO plywood.

2.4 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches into wood substrate.
 - 1. For prefinished items, provide matching prefinished aluminum fasteners where face fastening is required.
 - 2. For applications not otherwise indicated, provide hot-dip galvanized-steel fasteners.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prime lumber and moldings to be painted, including both faces and edges, unless factory primed. Cut to required lengths and prime ends. Comply with requirements in Section 099113 "Exterior Painting."

3.2 INSTALLATION, GENERAL

A. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.

- 1. Scribe and cut exterior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
- 2. Install stairs with no more than 3/16-inch variation between adjacent treads and risers and with no more than 3/8-inch variation between largest and smallest treads and risers within each flight.

3.3 STANDING AND RUNNING TRIM INSTALLATION

- A. Install flat-grain lumber with bark side exposed to weather.
- B. Install cellular PVC trim to comply with manufacturer's written instructions.
- C. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long except where necessary.
 - 1. Use scarf joints for end-to-end joints.
 - 2. Stagger end joints in adjacent and related members.
- D. Fit exterior joints to exclude water. Cope at returns and miter at corners.

END OF SECTION 06 20 13

SECTION 06 40 13

EXTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- Α. Submittals: Shop Drawings.
- Quality Standard: Woodwork Institute's "Manual of Millwork." Β.
- C. Forest Certification: Provide woodwork produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

PART 2 - PRODUCTS

2.1 MATERIALS

- Α. Hardboard: AHA A135.4.
- В. Softwood Plywood: DOC PS 1.
- C. Preservative Treatment: Comply with WDMA I.S.4 for items indicated to receive water-repellent preservative treatment.
- Fasteners for Exterior Woodwork: D.
 - Nails: hot-dip galvanized or stainless steel. 1.
 - 2. Screws: hot-dip galvanized or stainless steel.
 - Pre-drill for installation of Ipe decking. a.

2.2 EXTERIOR WOODWORK

- Α. Wood Moisture Content: 10 to 15 percent.
- В. Complete fabrication to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- C. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
- Exterior Standing and Running Trim: Economy grade, made from all heart redwood or western D. red cedar.
- Ε. Exterior Frames and Jambs: Custom grade, made from all heart redwood.

F. Exterior Ornamental Work: Custom grade, made from western red cedar or all heart redwood. The Lathrop House Relocation Project Project Manual Exterior Architectural Woodwork May 2018 06 40 13 - 1 Revision #0

- G. Shop prime woodwork for opaque finish with one coat of specified wood primer.
 - 1. Do not apply any finish to Ipe decking, unless specified elsewhere
- H. Backprime with one coat of sealer or primer, compatible with finish coats. Apply two coats to surfaces installed in contact with concrete or masonry and to end-grain surfaces.
 - 1. Apply penetrating oil to cut ends only of Ipe decking.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install woodwork to comply with referenced quality standard for grade specified.
- B. Install woodwork true and straight with no distortions. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
- C. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.
- D. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Fasten with countersunk concealed fasteners and blind nailing. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork.
- E. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Do not use pieces less than 36 inches long, except where shorter single-length pieces are necessary. Scarf running joints and stagger in adjacent and related members.

END OF SECTION 06 40 13

SECTION 07 13 26

SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Installer Qualifications: Authorized, approved, or licensed by waterproofing manufacturer.

PART 2 - PRODUCTS

2.1 WATERPROOFING MATERIALS

- A. Rubberized-Asphalt Sheet: 60-mil thick, self-adhering sheet consisting of 56 mils of rubberized asphalt laminated to a 4-mil- thick, polyethylene film with release liner on adhesive side and formulated for application with primer or surface conditioner that complies with VOC limits of authorities having jurisdiction.
 - 1. Products:
 - a. Grace, Bituthene or equal.
- B. Auxiliary Materials: Primer, surface conditioner, liquid membrane, substrate patching membrane, sheet strips, mastic, adhesives, tape, and metal termination bars recommended by waterproofing manufacturer.
 - 1. Primer: Liquid primer recommended for substrate.
 - 2. Surface Conditioner: Liquid, waterborne surface conditioner recommended for substrate.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Clean, prepare, and treat substrates. Provide clean, dust-free, and dry substrates for waterproofing application.
- B. Remove oil, form-release agents, curing compounds, and other contaminants or coatings.
- C. Remove projections and fill honeycomb, aggregate pockets, holes, and other voids.
- D. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks.
- E. Apply primer to substrates at required rate and allow it to dry.

- F. Install self-adhering sheet waterproofing according to manufacturer's written instructions and recommendations in ASTM D 6135.
- G. Apply and firmly adhere sheets. Accurately align sheets and maintain uniform 2-1/2-inchminimum lap widths and end laps. Overlap and seal seams and stagger end laps.
- H. Bridge and cover expansion joints and discontinuous deck-to-wall and deck-to-deck joints with overlapping sheet strips. Invert and loosely lay first sheet strip over center of joint. Firmly adhere second sheet strip to first and overlap to substrate.
- I. Prepare, prime, and treat inside and outside corners according to ASTM D 6135.
- J. Prepare, treat, and seal surfaces at terminations, penetrations, drains, and protrusions according to ASTM D 6135.
- K. Repair tears, voids, and lapped seams not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheets extending 6 inches beyond repaired areas in all directions.

END OF SECTION 07 13 26

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.
- B. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leak-proof, secure, and non-corrosive installation.

PART 2 - PRODUCTS

2.1 SHEET METAL

A. Galvanized Steel: ASTM A525, ASTM A361 with minimum 1.25 (377 g/sq m) ounces per square foot of zinc coating meeting ASTM A525, ASTM A446, and ASTM A361.

2.2 FLASHING AND TRIM

A. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.

2.3 ACCESSORIES

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Solder for Galvanized Steel: ASTM B 32, 100 percent tin.
- C. Butyl Sealant: ASTM C 1311, solvent-release type, for expansion joints with limited movement.
- D. Asphalt Mastic: SSPC-Paint 12, asbestos free, solvent type.
- E. Roofing Cement: ASTM D 4586, Type I, asbestos free, asphalt based.
- F. Slip Sheet: Rosin-sized paper, minimum 3 lb/100 sq. ft..

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with SMACNA's "Architectural Sheet Metal Manual." Allow for thermal expansion; set true to line and level. Install Work with laps, joints, and seams permanently watertight and weatherproof; conceal fasteners where possible.
 - 1. Roof-Edge Flashings: Secure metal flashings at roof edges according to FMG Loss Prevention Data Sheet 1-49 for specified wind zone.
 - 2. Roof Valley Flashings: Extend 12" each direction up roof.
- B. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
- C. Fabricate nonmoving seams in sheet metal with flat-lock seams.
 - 1. Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches, unless pre-tinned surface would show in finished Work.
- D. Separation: Separate non-compatible metals or corrosive substrates with a coating of asphalt mastic or other permanent separation.

END OF SECTION 07 62 00

SECTION 07 92 00

JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and color Samples.
- B. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg F.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS

- A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions.
- B. Sealant for Use in Building Expansion Joints:
 - 1. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses T, M, and O, with the additional capability to withstand 50 percent movement in both extension and compression for a total of 100 percent movement.
- C. Sealant for General Exterior Use Where Another Type Is Not Specified:
 - 1. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses T, NT, M, G, A, and O.
- D. Sealant for Exterior Traffic-Bearing Joints, Where Slope Precludes Use of Pourable Sealant:
 - 1. Single-component, nonsag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses T, NT, M, G, A, and O.
- E. Sealant for Exterior Traffic-Bearing Joints, Where Slope Allows Use of Pourable Sealant:
 - 1. Single-component, pourable urethane sealant, ASTM C 920, Type S; Grade P; Class 25; Uses T, M, G, A, and O.
- F. Sealant for Interior Use at Perimeters of Door and Window Frames:
 - 1. Latex sealant, single-component, nonsag, mildew-resistant, paintable, acrylic-emulsion sealant complying with ASTM C 834.

2.2 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer.
- B. Cylindrical Sealant Backings: ASTM C 1330, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint.

PART 3 - EXECUTION

- 3.1 INSTALLATION
 - A. Comply with ASTM C 1193.
 - B. Comply with ASTM C 919 for use of joint sealants in acoustical applications.
 - C. Mask off adjacent work to prevent contact of sealant onto non work surfaces
 - 1. Any inadvertent contact is to be cleaned off immediately with appropriate manufacturer recommended solvent that is appropriate for material and finish.
 - D. Sealed joints are to be inspected after the required set period.
 - 1. Joint should be prepared for appropriate finish as required.
 - 2. Any deficient sealed joint is to be cut out and re-applied.

END OF SECTION 07 92 00

SECTION 09 29 00

GYPSUM BOARD

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Fire-Resistance-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
- C. STC-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 90 and classified per ASTM E 413 by a qualified independent testing and inspecting agency.

PART 2 - PRODUCTS

2.1 PANEL PRODUCTS

- A. Provide in maximum lengths available to minimize end-to-end butt joints.
- B. Interior Gypsum Board: ASTM C 36/C 36M or ASTM C 1396/C 1396M, in thickness indicated, with manufacturer's standard edges. Regular type unless otherwise indicated. Sag-resistant type for ceiling surfaces.
- C. Water-Resistant Gypsum Backing Board: ASTM C 630/C 630M or ASTM C 1396/C 1396M, in thickness indicated. Regular type unless otherwise indicated.

2.2 ACCESSORIES

- A. Trim Accessories: ASTM C 1047, formed from galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet. For exterior trim, use accessories formed from hot-dip galvanized-steel sheet, plastic, or rolled zinc.
 - 1. Provide corner bead at outside corners unless otherwise indicated.
 - 2. Provide LC-bead (J-bead) at exposed panel edges.
 - 3. Provide control joints where indicated.
- B. Joint-Treatment Materials: ASTM C 475/C 475M.
 - 1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.
 - 2. Joint Compounds: Setting-type compounds Drying-type, ready-mixed, all-purpose compounds.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install gypsum board to comply with ASTM C 840.
 - 1. Isolate gypsum board assemblies from abutting structural and masonry work. Provide edge trim and acoustical sealant.
 - 2. Single-Layer Fastening Methods: Fasten gypsum panels to supports with screws.
 - 3. Multilayer Fastening Methods: Fasten base layers and face layer separately to supports with screws.
- B. Fire-Resistance-Rated Assemblies: Comply with requirements of listed assemblies.
- C. Finishing Gypsum Board: ASTM C 840.
 - 1. At concealed areas, unless a higher level of finish is required for fire-resistance-rated assemblies, provide Level 1 finish: Embed tape at joints.
 - 2. Unless otherwise indicated, provide Level 4 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges.

END OF SECTION 09 29 00

SECTION 09 29 00

GYPSUM BOARD

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.
- B. Fire-Resistance-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
- C. STC-Rated Assemblies: Provide materials and construction identical to those tested in assemblies per ASTM E 90 and classified per ASTM E 413 by a qualified independent testing and inspecting agency.

PART 2 - PRODUCTS

2.1 PANEL PRODUCTS

- A. Provide in maximum lengths available to minimize end-to-end butt joints.
- B. Interior Gypsum Board: ASTM C 36/C 36M or ASTM C 1396/C 1396M, in thickness indicated, with manufacturer's standard edges. Regular type unless otherwise indicated. Sag-resistant type for ceiling surfaces.
- C. Water-Resistant Gypsum Backing Board: ASTM C 630/C 630M or ASTM C 1396/C 1396M, in thickness indicated. Regular type unless otherwise indicated.

2.2 ACCESSORIES

- A. Trim Accessories: ASTM C 1047, formed from galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet. For exterior trim, use accessories formed from hot-dip galvanized-steel sheet, plastic, or rolled zinc.
 - 1. Provide corner bead at outside corners unless otherwise indicated.
 - 2. Provide LC-bead (J-bead) at exposed panel edges.
 - 3. Provide control joints where indicated.
- B. Joint-Treatment Materials: ASTM C 475/C 475M.
 - 1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.
 - 2. Joint Compounds: Setting-type compounds Drying-type, ready-mixed, all-purpose compounds.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install gypsum board to comply with ASTM C 840.
 - 1. Isolate gypsum board assemblies from abutting structural and masonry work. Provide edge trim and acoustical sealant.
 - 2. Single-Layer Fastening Methods: Fasten gypsum panels to supports with screws.
 - 3. Multilayer Fastening Methods: Fasten base layers and face layer separately to supports with screws.
- B. Fire-Resistance-Rated Assemblies: Comply with requirements of listed assemblies.
- C. Finishing Gypsum Board: ASTM C 840.
 - 1. At concealed areas, unless a higher level of finish is required for fire-resistance-rated assemblies, provide Level 1 finish: Embed tape at joints.
 - 2. Unless otherwise indicated, provide Level 4 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges.

END OF SECTION 09 29 00

SECTION 09 91 00

PAINTING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Summary: Paint exposed exterior surfaces, new and existing, unless otherwise indicated and in addition:
 - 1. Paint the back side of access panels.
 - 2. Exposed piping and mechanical ductwork.
 - 3. Do not paint pre-finished items, items with an integral finish, operating parts, and labels unless otherwise indicated.
 - 4. Paint interior surfaces where patched or repaired.
 - 5. Back-prime all new trim.
- B. Submittals:
 - 1. Product Data.
 - 2. Samples: Full-coats finish sample of each type of coating, color, and substrate, applied onto 24"x24" press board.
- C. MPI Standards:
 - 1. Products: Complying with Master Painters Institute (MPI) standards indicated and listed in "MPI Approved Products List."
 - 2. For renovation projects, consult "MPI Maintenance Repainting Manual" and revise subparagraph below and paint systems specified in Part 3.
 - 3. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and paint systems indicated.
 - 4. Extra Materials: Deliver to County 5 gallons of each color and type of finish coat paint used on Project, in containers, properly labeled and sealed.

PART 2 - PRODUCTS

2.1 PAINT / FINISH

- A. Products:
 - 1. Paints: Benjamin Moore, Dunn Edwards, or equal.
 - 2. Sealer: Penofin, or equal.
 - 3. Clear Coating: water-based polyurethane
- B. Material Compatibility: Provide materials that are compatible with one another and with substrates.
 - 1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

- C. Colors:
 - 1. Paint color: as selected by County.
 - Sealer: manufacturer's standard. 2.
 - 3. Clear Coat: clear semi-gloss.

PART 3 - EXECUTION

3.1 PREPARATION

- Α. Remove hardware, lighting fixtures and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.
- Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting B. so cleaning operations will not damage newly painted surfaces.

3.2 **APPLICATION**

- Α. Apply paint according to manufacturer's written instructions.
- Use brushes only for exterior painting and where the use of other applicators is not practical. Β.
- C. Use rollers for finish coat on interior walls and ceilings.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
- E. If undercoats or other conditions show through topcoat, apply additional coats until cured film uniform paint finish, color, and has а appearance.
- Apply stains and transparent finishes to produce surface films without color irregularity, F. cloudiness, holidays, lap marks, brush marks, runs, ropiness, or other imperfections. Use multiple coats to produce a smooth surface film of even luster.

3.3 EXTERIOR PAINT APPLICATION SCHEDULE

- Α. Steel:
 - Semi-gloss, Alkyd Enamel: over rust-inhibitive primer: MPI EXT 5.1D. 1.
- Β. Galvanized Metal:
 - 1. Semi-gloss, Alkyd Enamel: Two coats over cementitious galvanized-metal primer: MPI EXT 5.3C.
- C. Dressed Lumber: Including architectural woodwork doors.
 - 1. Semi-gloss Latex: Two coats over alkyd primer: MPI EXT 6.3A.

Wood Panel Products: Including plywood siding fascias soffits. D. The Lathrop House Relocation Project Project Manual May 2018 09 91 00 - 2

1. Semi-gloss Latex: Two coats over alkyd primer: MPI EXT 6.3A.

3.4 INTERIOR PAINT APPLICATION SCHEDULE

- A. Steel:
 - 1. Semi-gloss: Two coats over alkyd anticorrosive primer: MPI INT 5.1Q.
- B. Dressed Lumber: Including architectural woodwork doors.
 - 1. Semi-gloss Latex: Two coats over alkyd primer: MPI INT 6.3U.
- C. Wood Panel-Products:
 - 1. Semi-gloss: Two coats over alkyd primer: MPI EXT 6.4G.
- D. Gypsum Board:
 - 1. Eggshell Latex: Two coats over primer/sealer: MPI INT 9.2A.
 - 2. Eggshell Alkyd: Two coats over latex primer/sealer: MPI INT 9.2C at wet locations.

END OF SECTION 09 91 00

SECTION 22 01 00

BASIC PLUMBING REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

- A. The requirements of this section apply to all the gas pipe, water pipe, sanitary sewer, sanitary vent pipe and gas fired water heaters.
- B. The project documents are comprised of architectural drawings, project manual and design criteria.
- C. The drawings and specifications project manual define the scope and design intent of the project in terms of building systems configuration, equipment types, and quality levels that address the project requirements and standards.
- D. It is the intention of the Specifications and Drawings to call for finished work, tested and ready for operation. Any apparatus, appliance, material or work not shown on Drawings, but mentioned in the Specifications or vice versa, or any incidental accessories necessary to make the work complete and ready for operation, even if not particularly specified, shall be provided without additional expense to the Owner. Should there appear to be discrepancies or questions of intent in the Contract Documents, refer the matter to the Architect for his decision, before ordering any materials or equipment or before the start of any related work. The decision of the Architect shall be final, conclusive and binding.
- E. Drawings and Data:
 - 1. Drawings are generally diagrammatic and are intended to convey scope of work and to indicate general arrangement of equipment, conduits, piping and fixtures. They are not intended to show every offset or fitting or every structural difficulty that may be encountered during installation of the work. Location of all items not definitely fixed by dimensions are approximate only. Exact locations necessary to secure best conditions and results must be determined at Project and shall have approval of Architect before being installed. Do not scale Drawings.
 - 2. If so directed by Architect, without extra charge, make reasonable modifications in layout as needed to prevent conflict with work of other trades or for proper execution of work.
 - 3. Include minor details not usually shown or specified, but necessary for proper installation and operation of a system or piece of equipment in work and in bid price, the same as if specified or shown.

1.02 SCOPE

- A. Provide a complete working plumbing installation with all equipment called for in proper operating condition. Documents included show design intent and level of quality but do not undertake to show or list every item to be provided. When an item is not shown or listed, but is clearly necessary for proper operation of equipment which is shown or listed, provide the item which will allow the system to function properly at no increase in Contract Price.
- B. Work includes, but is not limited to:
 - 1. Submission of shop drawings and product data,

- 2. Coordination with Electrical Engineer, Plumbing Engineer, Structural Engineer, Architects, and Owner.
- 3. Delivery of products to site,
- 4. Installation, testing, commissioning and setting to work of all systems,
- 5. Preparation of Operation and Maintenance manuals,
- 6. Project construction schedule coordination and input to sequencing.

1.03 PLUMBING DESCRIPTION

- A. General
 - 1. Plumbing scope consists of reconnecting existing plumbing mains to accommodate the building relocation. Plumbing will connect to existing site utilities per project documents. New extensions of plumbing shall be installed to connect to new locations. Installer shall field verify existing plumbing and identify all new points of connection.
- B. Domestic Water Supply
 1. Domestic water is designed to connect the building main to existing.
- C. Gas supply
 - 1. Gas piping system is designed to connect the building main to existing.

1.04 REFERENCES

- A. The General Conditions, Supplementary conditions, and applicable portions of Division 1 apply to the work of this Section as if printed herein.
- B. This Section applies to the Work of all Sections under Division 22.

1.05 DEFINITIONS

- A. "Piping" includes, in addition to pipe, all fittings, nipples, flanges, valves, unions, hangers and other accessories related to such piping.
- B. "Wiring" includes, in addition to conductors, all raceways, conduit, fittings, boxes, switches, hangers and other accessories related to such wiring.
- C. "Concealed" means hidden from sight in chases, furred spaces, shafts, hung ceilings or embedded in construction.
- D. "Exposed" means not installed underground or "concealed" as defined above.
- E. "Regulating Authorities" means all governmental, utility and fire protection authorities having jurisdiction.
- F. "Provide" means to supply, erect, install and connect up completely, in readiness for regular operation, the particular work referred to.
- G. "Furnish" means to supply and deliver to the job, install as indicated.
- H. "Approved Equal" means any equipment or material which in the opinion of the architect, is equal in quality, durability, appearance, strength, design and performance to the equipment or material specified and will function adequately in accordance with the general design.

I. "Singular Number": Where any device is herein referred to in the singular number, such reference shall be deemed to apply to as many such devices as are required to complete the installation or as many as are shown.

1.06 SUBMITTALS

- A. General:
 - 1. This section provides more detailed requirements that apply to Plumbing submittals only. Final decisions shall be made by the architect.
- B. Submit Shop Drawings, supplemental data, for all materials, equipment in this Section.
- C. Forward all submittals to Architect together, at one time. Individual or incomplete submittals are not acceptable and will be returned without review. Contractor is responsible for any resultant consequence.
- D. Identify each item by manufacturer, brand, trade name, number, size, rating, or whatever other data is necessary to properly identify and check materials and equipment. Words "as specified" are not sufficient identification.
- E. Identify each submittal item by reference to Specification Section paragraph in which item is specified or Drawing and Detail number. Mark identification numbers appearing on the equipment schedule.
- F. Submittals will not be reviewed without prior stamp and sign-off by General Contractor and subcontractor.
- G. Organize submittals in same sequence as they appear in specification sections, articles or paragraphs.
- H. Shop Drawings shall show physical arrangement, construction details, finishes, materials used in fabrications, provisions for piping entrance, access requirements for installation and maintenance, physical size, mechanical characteristics, foundation and support details, weight.
 - 1. Specifically indicate, by drawn detail or note, that equipment complies with each specifically stated requirement of the Contract Documents.
 - 2. Draw Drawings to scale and dimension (except piping diagrams not to scale). May be prepared by vendor but submit as instruments of Contractor. Thoroughly check and stamp by Contractor before submission to Architect for review.
 - 3. Catalog cuts and published material may be included to supplement scale drawings.
- I. Submittal literature, drawings and wiring diagrams shall be specifically applicable to this project and shall not contain extraneous material or optional choices. Clearly mark literature to indicate the proposed item. Submittals shall include, but not be limited to those items listed in individual Sections.
- J. Manufacturer's Certificate of Performance and Construction:
 - 1. The equipment listed by model number and manufacturer in the plans and specifications has been selected for its capacity, certain standard construction features and specified optional features.
 - 2. When requested, the Contractor shall obtain a certificate signed by an authorized representative of the manufacturer certifying that:
 - a. The manufacturer has reviewed the performance requirements specified and scheduled.

- b. The manufacturer is cognizant of the standard and optional features of the specified equipment.
- c. The manufacturer warrants that the equipment fully meets items (a) and (b) above; or
- d. The manufacturer has listed in detail all exceptions to items (a) and (b) above.
- 3. In addition to the above items, when requested, the manufacturer shall furnish copies of current published performance data with specified conditions indicated and interpolations performed. Mere listing of specified performance conditions will not be acceptable.
- 4. Failure to completely comply with the requirements of this Section of the specifications shall be sufficient cause for final rejection of the proposed equipment.
- K. Substitutions:
 - 1. Certain products are specified with equals. Substitutions for those shall be submitted to architect. Contractor shall ensure all design criteria requirements are met with substitution prior to submitting to architect for review.
 - 2. Where manufacturers' names are specified, first named is basis of design. All other listed or other manufacturers other than first named will be considered substitutions. Substitutions are acceptable provided the following conditions are met:
 - a. Only one submission of a manufacturer other than first named will be considered; further resubmission of rejected manufacturer or any other manufacturer other than first named is not permitted.
 - b. Submit all data necessary, in table of comparison listing pertinent features of both specified and proposed materials, to show the equipment is equal to first named specified including model number, capacities, materials, dimensions, weights, required connections (piping, electrical, etc.), tube removal, maintenance access, etc. Provide itemized listing of similarities and differences. Rejection requires material be submitted as first named manufacturer. Insufficient information will cause immediate rejection.
 - c. In Architect's opinion, overall value to Owner will not be reduced. Decision of Architect is final.
 - d. Submit formal request for substitution including all requirements specified in this section. Clearly indicate when item is substituted for first named manufacturer. Lack of formal request will result in rejection.
 - e. Substitution cannot cause substantial revision of Contract Documents. List changes required in other work and products.
 - f. Perform a thorough check of all interferences, revised arrangements and other changes that may result. Furnish drawings of revised arrangements equal in quality to the Contract Drawings. Be responsible for making any changes in arrangement to work affected under other sections at no increase in contract sum.
 - g. If, in Architect's opinion, submitted manufacturer affects system design or the required size or capacity of other equipment, piping, electrical work, etc., make all necessary and related changes as directed by Architect. Additional engineering and sizing will be done by the Architect's Engineer at Contractor's expense.
 - h. Submit manufacturers other than first name only after adequate investigation to assure equivalence. Do not delegate responsibility to suppliers. Examine equivalents from point of view of the Owner including quality of manufacture, satisfactory service and spare ports availability, economy of operation and similar factors.

- i. If manufacturer other than first named is accepted by Architect, responsibility for its full compliance with Contract Documents and applicable codes remains with the Contractor. Acceptance by Architect does not imply acceptance of any deviations from the requirements of the Contract Documents.
- j. Submit accurate cost data comparing proposed substitution with first named product specified. Include in submittal dollar amount to be credited to Owner by change order if manufacturer other than first named is accepted. Item not acceptable if there is no credit or if credit is inadequate. Simple assertion that product is equal in cost, is substituted because of contractor-supplier relationship, already gave back cost differential during bid, etc., is not acceptable.
- k. Submit data relating to changes in construction schedule.
- I. Evaluation of proposed substitutions may be time consuming process. No extension of contract time will be granted owing to untimely submission, review or rejection.
- m. Contractor assumes full responsibility for any and all problems and delays arising from use of the substitute item or material.
- L. Resubmittals:
 - 1. Resubmittals will be reviewed for compliance with comment made on the original submittal only. Clearly identify replied-to comments with a resubmittal number and date.
 - 2. Indicate dates of previous submissions and submittal numbers.
 - 3. Direct specific attention to any changes made in addition to those made in reply to previous review comments.
 - 4. Reimburse owner for all costs associated with reviewing resubmittals after first resubmittal in the amount of 3.5 times direct technical personnel salary expense, plus expenses.
- M. Shop Drawings:
 - 1. Shop fabrication, coordination and installation Drawings, that are prepared to scale by the Contractor, are for his use and shall be his responsibility. These Drawings indicate where he intends to install the material and equipment as required by the Contract Documents. Do not submit shop fabrication documents unless requested. Use of contract documents or electronic files of contract documents for shop drawings is not permitted.
 - 2. No technical review of shop drawings will be undertaken. Where submittal is requested, drawings are required as evidence that work is planned, and that complete coordination of systems and resolution of conflicts or inconsistencies has been performed by the Contractor as required by these specifications. Shop drawings will be retained for file and not returned.
 - 3. Prepare and submit Shop Drawings for all Work in "tight" areas, indicating solutions to space problems and coordination with Work in other Sections. Clearly identify these areas (clouding, etc.). These Drawings, as a requirement of this Division, shall indicate, superimposed, Work of all Sections involved in congested area, including ductwork, piping, electrical work, ceiling work, etc. Include all mechanical rooms. Identification of space problems without solutions not acceptable.
 - 4. Contractor is responsible for dimensions, which shall be confirmed and correlated at the Jobsite, for fabrication processes and techniques or construction, for coordination of his Work with that of all other trades and the satisfactory performance of his work.
- N. Certificates:

- 1. Test certificates.
- 2. Instruction certificates.
- 3. Fire Marshal and/or Fire Department approvals of system.
- 4. Final inspection certificate signed by governing authorities.
- 5. Others as specified herein and as required.
- O. Operating and Maintenance Instructions and Manuals: In accordance as follows:
 - 1. Subsequent to completion of balancing, testing operations, this Division is responsible for instructing the Owner's authorized representatives in operation, adjustment and maintenance of mechanical plant and other mechanical equipment. Submit three copies of certificate, signed by Owner's representative, attesting to their having been instructed.
 - 2. Final punchlist will not be started until manuals are approved by the Owner's Representative.
 - 3. Instructions on water heaters.
 - 4. Individual guarantees.
 - 5. Certificates of Inspection and Instruction.
- P. Record Drawings:
 - 1. Maintain at site a set of drawings. Clearly indicate (by shading, coloring or some other acceptable method) the day-by-day extent of Work installed.
 - 2. Clearly indicate any dimension changes in elevation, location, size or material, and offsets and valves.
 - 3. Locate all underground, underfloor, concealed or buried piping by 2 or more dimensions per turn of pipe between each direction change. Show all elevations (invert or centerline) with the point of elevation change clearly located.
 - 4. Number and letter valves to correspond with number and letters of valve charts.
 - 5. Exact location, type and function of concealed valves, etc.
 - 6. Progress drawing set to be available for review by Owner's Representative weekly.
 - 7. At conclusion of contract work, provide the Owner's Representative with complete set of reproducible drawings with all changes clearly marked to reflect as-built conditions. Label these drawings "As-Built".

1.07 QUALITY ASSURANCE

- A. Standards:
 - 1. Specific references:
 - Accessibility Guidelines for the Americans with Disabilities Act (ADA) American Gas Association (AGA) (ANSI) American National Standards Institute American Standards Association (ASA) (ASC) Adhesive and Sealant Council (ASME) American Society of Mechanical Engineers American Society of Sanitary Engineering (ASSE) American Society for Testing and Materials (ASTM) American Welding Society (AWS) American Water Works Association (AWWA) (CCR) California Code of Regulations (CS) Commercial Standards - US Dept. of Commerce (FMS) Factory Mutual System US Dept. of Health, Education and Welfare (HEW) Manufacturers' Standardization Society (IMSS) National Bureau of Standards (NBS) (NCWB) National Certified Piping Welding Bureau

- (NEC) National Electric Code
- (NEMA) National Electrical Manufacturer's Association
- (NFPA) National Fire Protection Association
- (PDI) Plumbing and Drainage Institute
- (UL) Underwriters' Laboratories, Inc.
- (CPC) California Plumbing Code
- (CBC) California Building Code
- 2. All Base Materials: Comply with standard of ASTM and ANSI.
- 3. All Gas Fired Devices: Comply with standards and bear label of AGA.
- 4. All Pressure Vessels, Relief Valves, Safety Relief Valves and Safety Valves: Comply with standards, ASME stamped.
- 5. All Electrical Devices and Wiring: Conform to standards of NEC. All devices: UL listed and identified.
- 6. All work and material shall be in full accordance with the latest rules and regulations of the California State Fire Marshal and the California State Department of Public Health; the Safety Orders of the Division of Industrial Safety; CCR Titles 8, 17, 19, 22 and 24; the California Plumbing Code and California Mechanical Code, IAPMO; the National Electric Code, National Fire Protection Association Pamphlets; OSHA; and other applicable laws or regulations. Listing and approval of Underwriters' Laboratories, Inc. and American Gas Association where available and applicable.
- 7. Rulings and interpretations of authorities shall be considered a part of the regulations.
- 8. It is not the intent of drawings and specifications to repeat requirements of codes except where necessary for completeness or clarity.
- 9. Where the standards of the drawings and specifications for materials and/or workmanship are higher than the requirements of the documents cited above, the drawings and specifications shall take precedence; otherwise the documents shall govern.
- 10. Nothing in these plans or specifications is to be construed to permit work not conforming to these codes and regulations.
- 11. Should there be any direct conflict between the above rules and the specifications, the most stringent shall govern.
- 12. Charges for all materials and labor required for the compliance with these rules and regulations shall be included in the Bid Price.
- B. Before bidding, be familiar with rulings of inspection departments and comply with such requirement.
- 1.08 CODES, ORDINANCES, CERTIFICATES, PERMITS AND FEES:
 - A. Give necessary notices, obtain permits and pay taxes, fees and other costs in connection with work; file necessary plans, prepare documents and obtain necessary approvals of regulating authorities having jurisdiction; obtain all required Certificates of Inspection for Work and deliver to Owner's Representative before request for acceptance and final payment for Work.
 - B. Include in Work, without extra cost to Owner, labor, materials, services, apparatus, drawings (in addition to Contract Drawings and Documents) required to comply with applicable laws, ordinances, rules and regulations.

1.09 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver equipment in its original unbroken package to prevent damage or entrance of foreign matter. Perform all handling and shipping in accordance with manufacturer's

recommendations. Provide protective coverings during construction. Identifying labels intact and legible.

- B. Immediately upon delivery, identify and inspect materials and equipment delivered to Site assure compliance with Contract Documents, approved submittals and reviewed Shop Drawings.
- C. Protect from loss, damage, dust, water etc., until notice of completion has been filed. Promptly replace lost, damaged or defective materials and equipment with new at no increase in Contract Sum. Remove damaged or defective materials from site.

1.10 WARRANTY

- A. Each complete system shall be warranted by the Contractor for a period of one year from date of substantial completion. Each system shall be free of defects of materials and workmanship, and shall perform satisfactorily under all conditions of load or service.
- B. The warranties shall provide that all additional controls, protective devices, or equipment be provided as necessary to make the system or equipment operate satisfactorily and than any faulty materials or workmanship shall be replaced or repaired.
- C. On failure of the warrantor to do the above after written notice from Owner, the Owner shall have the Work done at the cost of the warrantor at no increase in contract sum.
- D. Minimum manufacturers' warranties shall be two years, parts and labor.

1.11 JOB CONDITIONS

- A. In accordance local ordinances and the following.
- B. Specifications and Drawings:
 - 1. In case of conflict, the most stringent takes precedence.
 - 2. Not all information is included in both Drawings and Specifications. If any information is in either Drawings or Specifications it is as if the information is covered fully in both Drawings and Specifications.
 - 3. For purposes of clarity, legibility, Drawings are essentially diagrammatic to extent that many offsets, bends, unions, special fittings, exact locations of items are not indicated, unless specifically dimensioned. Especially note a number of required duct and pipe offsets to coordinate with structure are not shown. Coordinate dimensioned conditions including invert elevations with work of other trades prior to installation of any work of any trade.
 - 4. Exact routing of piping, flues, etc. shall be governed by structural conditions, obstructions. Make use of data in Contract Documents. In addition, Architect reserves right, at no increase in Contract Sum, to make any reasonable change in location of mechanical items, exposed at ceiling or on walls, to group them into orderly relationships or increase their utility. Contractor to verify Architect's requirements in this regard prior to roughing-in.
 - 5. Take dimensions, location of doors, partitions, similar physical features from Architectural Drawings. Verify at Site under this Division. Consult architectural Drawings for exact location of outlets to center with Architectural features, panels, etc., at the approximate location shown on mechanical Drawings.
 - 6. Mounting heights of brackets, outlets, etc., as required.
- C. Coordination:

- 1. Work out all "tight" conditions involving Work under this Division and Work in other Divisions in advance of installation. If necessary, and before Work proceeds in these areas, prepare supplementary Drawings under this Division for review showing all Work in congested area. Provide supplementary Drawings, additional Work necessary to overcome congested conditions, at no increase in Contract Sum.
- 2. Difference or disputes concerning coordination, interference or extent of Work between sections shall be decided by Contractor, his decision, if consistent with Contract Document requirements, shall be final.
- 3. Coordinate electrical interlocks of mechanical equipment with Electrical section.
- 4. Provide templates, information and instructions to other Divisions to properly locate holes and openings to be cut or provided.
- 5. Not all offsets in piping are shown. Contractor shall decide which item to offset or relocate. Maintain required slope in piping.
- D. Large Scale Layout Drawings: Prepare large scale detailed layout Drawings showing locations of equipment, piping runs, and all other elements of plumbing systems provided under this Division. Include sections of all "tight" areas to show relative position and spacing of affected elements.
- E. Equipment Rough-In:
 - 1. Rough-in locations shown on Drawings for equipment furnished by Owner and for equipment furnished under other Divisions are approximate only. Obtain exact rough-in locations from following sources:
 - a. From Shop Drawings for Contractor furnished and installed equipment.
 - b. From Architect for Owner furnished-Contractor installed equipment.
 - c. From existing equipment where such equipment is relocated under this Contract.
 - 2. Verify mechanical characteristics of equipment before starting rough-in. Where conflict exists between equipment and rough-in shown on Drawings obtain clarification from Architect and provide as directed at no increase in Contract Sum.
 - 3. Make final connections.
- F. Site Examination:
 - 1. Shall consist of: As dwellings become available for work, conduct thorough inspection of existing conditions and bring any unforeseen existing conditions that will affect the scope of work to the attention of the architect.
- G. Review of Construction:
 - 1. Work may be reviewed at any time by representatives of Architect.
 - 2. Advise Architect that work is ready for review at following times:
 - a. Prior to backfilling buried work.
 - b. Prior to concealment of work in walls and above ceilings.
 - c. When all requirements of Contract have been completed.
 - 3. Neither backfill nor conceal work without Architect's consent.
 - 4. Maintain on job a set of Specifications and Drawings for use by Architect's representatives.
 - 5. Engineer will assist Architect with field review of construction, will inform Architect regarding progress and problems related to construction, and will endeavor to guard Owner against defective materials and faulty workmanship. Engineer's reviews will be periodic, depending upon nature of construction. Engineer is not required to perform extensive or continuous inspection, is not responsible for execution of Contract Documents by Contractor, nor is he responsible for construction methods, sequences, or safety precautions.

- H. Schedule of Work:
 - 1. Arrange work to conform to schedule of construction established or required to comply with Contract Documents.
 - 2. In scheduling, anticipate means of installing equipment through available openings in structure.
 - 3. Before making connections or doing any work which will interrupt existing services, notify Owner, in writing, twelve working days in advance and advise duration of interruption; perform such Work as quickly as possible and only at such times designated by Owner, refer to General Conditions.

1.12 SERVICING

A. A manufacturer's representative and adequate maintenance facilities in the area are required to insure prompt servicing of all equipment installed.

PART 2 – PRODUCTS

- 2.01 MATERIALS AND EQUIPMENT
 - A. Materials and equipment standard products of a reputable manufacturer regularly engaged in manufacturer of the specified item. Where more than one unit is required on any item, furnish and install same manufacturer, except where specified otherwise. Install material and equipment in accordance with manufacturer's recommendations. Should variance between plans and specifications occur with these, contact Architect immediately so that variations in installation can be known by all parties concerned.
 - B. Equipment specified by manufacturer's number shall include all accessories, controls, etc., listed in catalog as standard with equipment. Furnish optional or additional accessories as specified.
 - C. Where no specific make of material or equipment is mentioned, any first class product of reputable manufacturer may be used, provided it conforms to requirements of system and meets with acceptance.
 - D. Deliver materials or equipment to the Project in the manufacturer's original unopened, labeled containers and adequately protect against moisture, tampering or damage from improper handling or storage. Do not deliver materials to the job before they are ready for installation, unless adequate security is provided.
 - E. Architect may require removal from the premises of such material or Work, that in his opinion is not in accordance with Specification; he will also require substitution, without delay and satisfactory Work or material.
 - F. Factory Applied Finishes: Repair and/or refinish work damaged by the Work of this Division, to Architect's satisfaction. Obtain finishing materials from equipment manufacturer.
 - G. Access Doors:
 - 1. Furnish under this Division where shown, or required by Regulatory Agencies and for access of all concealed valves, shock absorbers, unions, pumps, etc., even though access doors are not shown for Plumbing Work.
 - 2. Sizes: 24 inches by 24 where entire body access is required, 18 by 18 where partial body access is required for ceilings and 12 inches by 12 inches minimum for walls and easily accessible items.
 - 3. Mark each door to accurately establish its location.

- H. Electrical Requirements:
 - 1. Electrical Work in this Division shall conform to requirements Electrical section.
 - 2. Disconnects: Motor disconnects shall follow NEC.
 - 3. Power wiring: Except for factory wiring on mechanical equipment, power wiring is specified in NEC.
 - 4. Provide control conduit and wiring for all HVAC controls.
 - 5. Fire protection system wiring, refer to NEC.
 - 6. Where Drawings clearly and explicitly differ from the two preceding wiring paragraphs, the most stringent has precedence.
 - 7. Provide controls, controllers, relays, transformers, switches, etc., required by Work of this Division.
 - 8. Provide weatherproof devices and installation for out-of-doors work.
 - 9. Motors: Provide motors for equipment specified. Coordinate with Division 23.
- 2.02 NATURAL GAS PIPING
 - A. Steel Pipe: ASTM A 53/A, black steel, Schedule 40, Type E or S, Grade B.
 - 1. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150, standard pattern.
 - 2. Wrought-Steel Welding Fittings: ASTM A 234/A 234M for butt welding and socket welding.
 - 3. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seat, ground joint, and threaded ends.
 - 4. Protective Coating for Underground Piping: Factory-applied, three-layer coating of epoxy, adhesive, and PE.
- 2.03 DOMESTIC WATER PIPING COPPER TUBE AND FITTINGS
 - B. Soft Copper Tube: ASTM B 88, Type K water tube, annealed temper.
 - 1. Copper Solder-Joint Fittings: ASME B16.22, wrought-copper pressure fittings.
 - 2. Copper Pressure-Seal-Joint Fittings:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Elkhart Products Corporation; Industrial Division.
 - 2) NIBCO INC.
 - 3) Or Approved Equal.
 - b. NPS 2 and Smaller: Wrought-copper fitting with EPDM-rubber O-ring seal in each end.
 - C. Hard Copper Tube: ASTM B 88, Type L water tube, annealed temper.
 - 1. Copper Solder-Joint Fittings: ASME B16.22, wrought-copper pressure fittings.
 - 2. Copper Pressure-Seal-Joint Fittings:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Elkhart Products Corporation; Industrial Division.
 - 2) NIBCO INC.
 - 3) Or Approved Equal.
 - b. NPS 2 and Smaller: Wrought-copper fitting with EPDM-rubber O-ring seal in each end.
- 2.04 SPECIAL TOOLS
 - A. Furnish to Owner the following:

1. One set of any special tools required to operate, adjust, dismantle or repair any equipment of this Division. "Special tools" means those not normally found in possession of mechanics or maintenance personnel.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Examine fully specifications and Drawings, to become familiar with all conditions affecting work, and consult and cooperate with other Divisions and Sections for determining space requirements and adequate clearances with respect to other equipment in the building. Architect reserves the right to determine space priority in the event of interference between piping, conduit, and equipment of various trades.
- B. If Work is installed without coordinating with other trades, and such installation interferes with their installation, make any changes necessary to correct the conditions, without extra charge.

3.02 EXISTING INSTALLATION AND CONFLICTS

- A. Protect existing active services (water, gas, sewer, electric) when encountered, against damage from construction work. Do not prevent or disturb operation of active services which are to remain. If Work makes temporary shutdowns of services unavoidable, consult with Owner as to dates, procedures, and estimated duration of shutdown period at least ten working days in advance of the date that the work is to be performed. The Work may require shutdowns to be accomplished on an "overtime" basis without additional cost to the Owner.
- B. Arrange Work for continuous performance to assure that existing operating services will be shut down only during the time required to make necessary connections. If a system cannot shut down, install temporary bypasses or jumpers until connections are complete.
- C. If existing active utility services are encountered which require relocation, make request to proper authorities for determination of procedures. Properly terminate existing services to be abandoned in conformance with requirements of authorities having jurisdiction.
- D. All removed equipment shall remain the property of the Owner and stored on site as directed.
- E. Where connections or disruptions are made to existing system, reactivate, refill and recharge all components and restore systems to the same operating conditions prior to the time of disruption.

3.03 INSTALLATION

- A. Install materials and equipment in compliance with governing codes.
- B. Manufacturers' Directions: Follow in all cases where manufacturers' of articles used furnish directions covering points not specified or shown.
- C. Assemble equipment which is required to be field assembled under the direct supervision of the manufacturers' agent. Prior to the final acceptance submit letters from the manufacturers that this has been done.

- D. Equipment: Accurately set and level with supports neatly placed and properly fastened. Properly fasten equipment in place with bolts to prevent movement in earthquake. No allowance of any kind will be made for negligence on part of Contractor to foresee means of bringing in, installing equipment into position inside building.
- E. Piping or Flue Systems: As specified in other Sections of this Division.
- F. Electrical:
 - 1. Install wiring in conduit at concealed and exposed locations; provide conduit.
 - 2. Install electrical devices with code required clearances and access.

3.04 TEMPORARY SERVICE

A. Provide when any existing services are interrupted in connection with Work of this Section beyond the period of time acceptable and approved by the Owner.

3.05 SLEEVES

- A. Furnish and set sleeves in locations where pipes or conduit pass through floors, walls, partitions, all concrete and roof. Openings shall not impair strength, function or esthetics of the Work cut.
- B. Submit shop drawing showing sleeves at all locations.

3.06 EXCAVATION AND BACKFILL

- A. Perform necessary excavation, shoring and backfilling required for the proper laying of pipes and conduits inside the building and premises, and outside as may be necessary. Remove excavated materials as directed.
- B. Excavation and backfill shall be as described for similar Work under Sitework Division.
- C. Provide barricades, signs, lanterns, shoring, sheeting and pumping as part of work in the Division as required to ensure safe conditions. Comply with Cal-OSHA requirements.

3.07 PIPE EXPANSION, CONTRACTION, VIBRATION

A. Install pipe connections to allow for freedom of movement of piping during expansion, contraction or vibration. Provide expansion loops, flex connections and expansion joints with proper anchors and guides as required or where shown on drawings. Anchors and guides shall be subject to review.

3.08 SCAFFOLDING, RIGGING AND HOISTING

A. Provide scaffoldings, rigging, joisting and services necessary for erection and delivery of equipment and materials provided under this Division. Remove same from premises when no longer required.

3.09 HANGERS, INSERTS, SUPPORTS AND BASES

A. Provide required structural members, hangers, anchor bolts, supports and inserts. Keep piping and conduit in proper alignment and prevent transmission of injurious thrusts and vibrations.

- B. Provide seismic restraint for water heaters, bolted into building framing.
- C. Embed no piping in concrete or masonry.

3.10 MANUFACTURER'S IDENTIFICATION

A. Manufacturer's nameplate, name or trademark shall be permanently affixed to all equipment and material furnished under this Specification. The nameplate of Subcontractor or Distributor are not acceptable.

3.11 ACCESS PANELS

A. Place no valves, traps, controls, unions, cleanouts, junction boxes, pull boxes, expansion joints, etc., in any system at a location that will be inaccessible after construction is completed. Maintain accessibility for all components in systems.

3.12 PAINTING

- A. Paint all unpainted, non-insulated, non-galvanized and exterior galvanized, ferrous metal surfaces of pipes, equipment, fixtures, hangers, supports, and accessories to satisfaction of Architect.
- B. Paint all equipment and supports out-of-doors with two coats rust and weather inhibiting enamel.
- C. Refinish Work supplied with final finish under this Division if damaged to satisfaction of Architect.
- D. Thoroughly clean equipment, and other materials under this Division free from all rust, scale, dirt, grease, splashed paint, plaster, and all other dirt before any covering of painting is done, or the systems put in operation. Leave in condition satisfactory to Architect.
- E. Provide moisture resistant paint for exterior painting.
- F. Colors as directed by Architect unless specified herein.

3.13 CUTTING AND PATCHING

- A. PEST CONTROL: Seal all joints around utility penetrations and ductwork, and any other holes or gaps. In cases where walls are opened, seal any accessible interior utility penetrations, including holes through sill plate, top plate, blocking. For joints <1/4 inch, use elastomeric sealant (acrylic and/or silicone-based) or latex sealant complying with ASTMC-92O or ASTMC-834 and compatible with substrate. If joint depth exceeds 1/2 inch use foam backer rod. For joints wider than 17'4 inch, use corrosion-resistant metal wool (such as stainless steel, bronze or copper wool), overlaid with elastomeric sealant (as above), vinyl or polymer-based concrete patching compound, construction grade adhesive or fire block foam, depending on substrate.
- B. Cut completed construction Work only where sleeves, openings, chases, etc., were inadvertently omitted and only with specific permission of the Architect. In no case shall reinforcing steel be cut without specific permission of Architect.
- C. Provide sleeves, caps, plates, escutcheons, flashing, etc., required to fill or close the openings. Provide final grouting, concrete, asphalt, masonry, painting and other

materials as required. Make repairs in like and kind for exact patching or surfaces and finishes.

- D. Where cutting and patching occurs in streets or sidewalks, cooperate fully with Owner and municipal or other government bodies.
- E. Assume responsibility for damage to any part of premises or work of other Divisions cause by leaks or breaks in piping or equipment furnished or installed under this division during construction and warranty/guarantees period.

3.14 OPERATION BY OWNER

- A. Owner may require operation of parts or all of respective installations prior to final acceptance. Cost of utilities for such operation shall be paid by Owner.
- B. Operation of installation shall not be construed as acceptance of Work.

3.15 TESTS AND ADJUSTMENTS

- A. Labor, materials, instruments and power required for testing provided under respective Sections for Work under that Section.
- B. Perform tests to satisfaction of Architect and SFDBI. Submit to Architect written certificates that tests have been performed in accordance with Specification requirements stated below.
- C. Pressure test ALL EXISTING sanitary sewer and vent pipe after repair and alteration for new fixtures and mobility unit alterations. Sanitary sewer and vent pipe shall hold 10' water column pressure above the highest fixture connection for 24 hours with no measureable drop in water level. Pressure test piping before connection to equipment. No piping equipment or accessories shall be subjected to pressures exceeding their rating.
- D. Repair or replace defective Work and repeat tests until particular systems, and component parts thereof, receive approval of Architect and regulating authority. Any damages resulting from tests, shall be repaired and damaged material replaced, all to satisfaction of Architect and at no cost to Owner.
- E. Test water heaters and fixtures. Perform tests on individual equipment, systems and their controls.
- F. No piping shall be closed up, furred in, or covered before testing.
 - 1. Notify regulating authority and Architect three days before tests are conducted.
- G. Preliminary Operation:
 - 1. Operate any portion of installation for Owner's convenience if so requested by Architect. Such operation does not constitute acceptance of Work as complete. Cost of utilities, such as gas and electrical power, will be borne by Owner if operation is requested by Owner.
- H. Startup Service:
 - 1. Prior to startup, ensure that systems are ready, including checking the following: controls and installed and properly set relief and safety valves.
 - 2. Start and operate all systems.

- I. Adjusting:
 - 1. Adjust water heaters to medium heat setting.
 - 2. At completion of Work, provide written certification that all systems are functioning properly without defects.

3.16 EMERGENCY REPAIRS

A. Provide the Owner with a contact name and telephone number for emergency repairs.

3.17 CLEANING

- A. The Work of each Section includes removing tools, scaffolding, surplus materials, barricades, temporary walks, debris and rubbish from the Project promptly upon completion of that portion of the Work. Leave the area of operations completely clean and free of these items.
- B. During the course of construction, cap all ducts, pipe and electrical conduit daily. Completely cover motors, plumbing fixtures and other equipment in approved manner to ensure adequate protection against entrance of foreign substances.
- C. Disconnect, clean and reconnect, whenever necessary, to located and remove obstructions from any system. Repair or replace any Work damaged in the course of removing said obstructions at no additional cost to the Owner.

3.18 WATERPROOF CONSTRUCTION

A. Maintain waterproof integrity of penetrations of materials intended to be waterproof. Provide flashings at exterior wall and roof penetrations. Caulk watertight penetrations of foundation walls and floors. Provide membrane clamps at penetrations of waterproof membranes.

END OF SECTION

SECTION 22 13 16

SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section Includes:
 - 1. Pipe, tube, and fittings.

1.03 PERFORMANCE REQUIREMENTS

- A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:
 - 1. Soil, Waste, and Vent Piping: 10-foot head of water.
- B. Seismic Performance: Soil, waste, and vent piping and support and installation shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
- 1.04 QUALITY ASSURANCE
 - A. Piping materials shall bear label, stamp, or other markings of specified testing agency.
- 1.05 PROJECT CONDITIONS
 - A. Interruption of Existing Sanitary Waste Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
 - 1. Notify Owner no fewer than two days in advance of proposed interruption of sanitary waste service.
 - 2. Do not proceed with interruption of sanitary waste service without Owner's written permission.

PART 2 - PRODUCTS

2.01 PIPING MATERIALS

- A. Comply with requirements in "Piping Schedule" Article for applications of pipe, tube, fitting materials, and joining methods for specific services, service locations, and pipe sizes.
- 2.02 HUB-AND-SPIGOT, CAST-IRON SOIL PIPE AND FITTINGS
 - A. Gaskets: ASTM C 564, rubber.
 - B. Calking Materials: ASTM B 29, pure lead and oakum or hemp fiber.
- 2.03 HUBLESS, CAST-IRON SOIL PIPE AND FITTINGS
 - A. Pipe and Fittings: ASTM A 888 or CISPI 301.
 - B. Sovent Stack Fittings: ASME B16.45 or ASSE 1043, hubless, cast-iron aerator and deaerator drainage fittings.
 - C. CISPI, Hubless-Piping Couplings:
 - 1. Standards: ASTM C 1277 and CISPI 310.
 - 2. Description: Stainless-steel corrugated shield with stainless-steel bands and tightening devices; and ASTM C 564, rubber sleeve with integral, center pipe stop.

2.04 COPPER TUBE AND FITTINGS

- A. Copper Drainage Fittings: ASME B16.23, cast copper or ASME B16.29, wrought copper, solderjoint fittings.
- B. Copper Pressure Fittings:
 - 1. Copper Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint fittings. Furnish wrought-copper fittings if indicated.
 - 2. Copper Unions: MSS SP-123, copper-alloy, hexagonal-stock body with ball-and-socket, metal-to-metal seating surfaces, and solder-joint or threaded ends.
- C. Copper Flanges: ASME B16.24, Class 150, cast copper with solder-joint end.
 - 1. Flange Gasket Materials: ASME B16.21, full-face, flat, nonmetallic, asbestos-free, 1/8inchmaximum thickness unless thickness or specific material is indicated.
 - 2. Flange Bolts and Nuts: ASME B18.2.1, carbon steel unless otherwise indicated.

2.05 ABS PIPE AND FITTINGS

A. ABS Socket Fittings: ASTM D 2661, made to ASTM D 3311, drain, waste, and vent patterns.

- 2.06 PVC PIPE AND FITTINGS
 - A. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.
 - B. Adhesive Primer: ASTM F 656.
 - 1. Adhesive primer shall have a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - 2. Adhesive primer shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

PART 3 - EXECUTION

3.01 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on coordination drawings.
- B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- D. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.
- E. Install piping to permit valve servicing.
- F. Install piping at indicated slopes.
- G. Install piping free of sags and bends.
- H. Install fittings for changes in direction and branch connections.
- I. Install piping to allow application of insulation.
- J. Install seismic restraints on piping. Comply with requirements for seismic-restraint devices per project requirements.
- K. Make changes in direction for soil and waste drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees and short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if two fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Use proper size of standard increasers and reducers if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.

- L. Lay buried building drainage piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements. Maintain swab in piping and pull past each joint as completed.
- M. Install soil and waste drainage and vent piping at the following minimum slopes unless otherwise indicated:
 - 1. Building Sanitary Drain: 2 percent downward in direction of flow for piping NPS 3 and smaller; 2 percent downward in direction of flow for piping NPS 4 and larger.
 - 2. Horizontal Sanitary Drainage Piping: 2 percent downward in direction of flow.
 - 3. Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.
- N. Install cast-iron soil piping according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings."
- O. Install aboveground copper tubing according to CDA's "Copper Tube Handbook."
- P. Install engineered soil and waste drainage and vent piping systems as follows:
 - 1. Combination Waste and Vent: Comply with standards of authorities having jurisdiction.
 - 2. Sovent Drainage System: Comply with ASSE 1043 and sovent fitting manufacturer's written installation instructions.
 - 3. Reduced-Size Venting: Comply with standards of authorities having jurisdiction.
- Q. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.
- R. Install sleeves for piping penetrations of walls, ceilings, and floors.
- S. Install sleeve seals for piping penetrations of concrete walls and slabs.
- T. Install escutcheons for piping penetrations of walls, ceilings, and floors.

3.02 JOINT CONSTRUCTION

- A. Join hub-and-spigot, cast-iron soil piping with gasket joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.
- B. Join hub-and-spigot, cast-iron soil piping with calked joints according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for lead-and-oakum calked joints.
- C. Join hubless, cast-iron soil piping according to CISPI 310 and CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless-piping coupling joints.
- D. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
 - 1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.

- 2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.
- E. Join copper tube and fittings with soldered joints according to ASTM B 828. Use ASTM B 813, water-flushable, lead-free flux and ASTM B 32, lead-free-alloy solder.
- F. Grooved Joints: Cut groove ends of pipe according to AWWA C606. Lubricate and install gasket over ends of pipes or pipe and fitting. Install coupling housing sections, over gasket, with keys seated in piping grooves. Install and tighten housing bolts.
- G. Flanged Joints: Align bolt holes. Select appropriate gasket material, size, type, and thickness. Install gasket concentrically positioned. Use suitable lubricants on bolt threads. Torque bolts in cross pattern.

3.03 SPECIALTY PIPE FITTING INSTALLATION

- A. Dielectric Fittings:
 - 1. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
 - 2. Dielectric Fittings for NPS 2 and Smaller: Use dielectric
 - 3. Dielectric Fittings for NPS 2-1/2 to NPS 4: Use dielectric

3.04 VALVE INSTALLATION

- A. Shutoff Valves:
 - 1. Install shutoff valve on each sewage pump discharge.
 - 2. Install gate or full-port ball valve for piping NPS 2 and smaller.
 - 3. Install gate valve for piping NPS 2-1/2and larger.
- B. Check Valves: Install swing check valve, between pump and shutoff valve, on each sewage pump discharge.
- C. Backwater Valves: Install backwater valves in piping subject to backflow.
 - 1. Horizontal Piping: Horizontal backwater valves. Use normally closed type unless otherwise indicated.
 - 2. Floor Drains: Drain outlet backwater valves unless drain has integral backwater valve.
 - 3. Install backwater valves in accessible locations.

3.05 HANGER AND SUPPORT INSTALLATION

- A. Comply with requirements for pipe hanger and support devices and installation per SMACNA requirements.
 - 1. Install carbon-steel pipe hangers for horizontal piping in noncorrosive environments.
 - 2. Install stainless-steel pipe hangers for horizontal piping in corrosive environments.
 - 3. Install carbon-steel pipe support clamps for vertical piping in noncorrosive environments.
 - 4. Install stainless-steel pipe support clamps for vertical piping in corrosive environments.
 - 5. Vertical Piping: MSS Type 8 or Type 42, clamps.
 - 6. Install individual, straight, horizontal piping runs:

- a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
- b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
- c. Longer Than 100 Feet if Indicated: MSS Type 49, spring cushion rolls.
- 7. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
- 8. Base of Vertical Piping: MSS Type 52, spring hangers.
- B. Support horizontal piping and tubing within 12 inches of each fitting, valve, and coupling.
- C. Support vertical piping and tubing at base and at each floor.
- D. Rod diameter may be reduced one size for double-rod hangers, with 3/8-inch minimum rods.
- E. Install hangers for cast-iron soil piping with the following maximum horizontal spacing and minimum rod diameters:
 - 1. NPS 1-1/2 and NPS 2: 60 inches with 3/8-inch rod.
 - 2. NPS 3: 60 inches with 1/2-inchrod.
 - 3. NPS 4 and NPS 5: 60 inches with 5/8-inch rod.
 - 4. NPS 6 and NPS 8: 60 inches with 3/4-inch rod.
 - 5. NPS 10 and NPS 12: 60 inches with 7/8-inch rod.
 - 6. Spacing for 10-footlengths may be increased to 10 feet. Spacing for fittings is limited to 60 inches.
- F. Install supports for vertical cast-iron soil piping every 15 feet.
- G. Install hangers for steel piping with the following maximum horizontal spacing and minimum rod diameters:
 - 1. NPS 1-1/4: 84 inches with 3/8-inchrod.
 - 2. NPS 1-1/2: 108 inches with 3/8-inchrod.
 - 3. NPS 2: 10 feet with 3/8-inchrod.
 - 4. NPS 2-1/2: 11 feet with 1/2-inchrod.
 - 5. NPS 3: 12 feet with 1/2-inchrod.
 - 6. NPS 4 and NPS 5: 12 feet with 5/8-inchrod.
 - 7. NPS 6 and NPS 8: 12 feet with 3/4-inchrod.
 - 8. NPS 10 and NPS 12: 12 feet with 7/8-inchrod.
- H. Install hangers for copper tubing with the following maximum horizontal spacing and minimum rod diameters:
 - 1. NPS 1-1/4: 72 inches with 3/8-inchrod.
 - 2. NPS 1-1/2 and NPS 2: 96 inches with 3/8-inchrod.
 - 3. NPS 2-1/2: 108 inches with 1/2-inchrod.
 - 4. NPS 3 and NPS 5: 10 feet with 1/2-inchrod.
 - 5. NPS 6: 10 feet with 5/8-inchrod.
 - 6. NPS 8: 10 feet with 3/4-inchrod.
- I. Install supports for vertical copper tubing every 10 feet.
- J. Install hangers for ABS and PVC piping with the following maximum horizontal spacing and minimum rod diameters:
 - 1. NPS 1-1/2 and NPS 2: 48 inches with 3/8-inchrod.

- 2. NPS 3: 48 inches with 1/2-inchrod.
- 3. NPS 4 and NPS 5: 48 inches with 5/8-inchrod.
- 4. NPS 6 and NPS 8: 48 inches with 3/4-inchrod.
- 5. NPS 10 and NPS 12: 48 inches with 7/8-inchrod.
- K. Install supports for vertical ABS and PVC piping every 48 inches.
- L. Support piping and tubing not listed above according to MSS SP-69 and manufacturer's written instructions.

3.06 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect soil and waste piping to exterior sanitary sewerage piping. Use transition fitting to join dissimilar piping materials.
- C. Connect drainage and vent piping to the following:
 - 1. Plumbing Fixtures: Connect drainage piping in sizes indicated, but not smaller than required by plumbing code.
 - 2. Plumbing Fixtures and Equipment: Connect atmospheric vent piping in sizes indicated, but not smaller than required by authorities having jurisdiction.
 - 3. Plumbing Specialties: Connect drainage and vent piping in sizes indicated, but not smaller than required by plumbing code.
 - 4. Install test tees (wall cleanouts) in conductors near floor and floor cleanouts with cover flush with floor.
 - 5. Install horizontal backwater valves with cleanout cover flush with floor.
 - 6. Equipment: Connect drainage piping as indicated. Provide shutoff valve if indicated and union for each connection. Use flanges instead of unions for connections NPS 2-1/2 and larger.
- D. Connect force-main piping to the following:
 - 1. Sanitary Sewer: To exterior force main.
 - 2. Sewage Pump: To sewage pump discharge.
- E. Where installing piping adjacent to equipment, allow space for service and maintenance of equipment.

3.07 IDENTIFICATION

A. Identify exposed sanitary waste and vent piping.

3.08 PIPING SCHEDULE

- A. Flanges and unions may be used on aboveground pressure piping unless otherwise indicated.
- B. Aboveground, soil and waste piping NPS 4 and smaller shall be any of the following:

- 1. Hubless, cast-iron soil pipe and fittings; CISPI hubless-piping couplings; and coupled joints.
- C. Aboveground, vent piping NPS 4 and smaller shall be any of the following:
 - 1. Hubless, cast-iron soil pipe and fittings; CISPI hubless-piping couplings; and coupled joints.
- D. Underground, soil, waste, and vent piping NPS 4 and smaller shall be any of the following:
 - 1. gaskets; and gasketed joints.
 - 2. Hubless, cast-iron soil pipe and fittings; CISPI hubless-piping couplings; and coupled joints.

END OF SECTION 221316

SECTION 26 05 00

ELECTRICAL BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 SECTION INCLUDES:

- A. Conduit, raceways and fittings.
- B. Wires and Cables for 600 Volts and less.
- C. Wire connections and devices.
- D. Outlet boxes.
- E. Pull and junction boxes.
- F. Supporting Devices.
- G. Identifying Devices.
- H. Grounding and Bonding
- I. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.02 SUMMARY

- A. Submit in accordance with the requirements of Division 1 the following items:
- B. A list of conduit types indicating where each type of conduit will be used. Indicate conduit manufacturers and fittings to be used.
- C. Wires and Cables.
- D. Wiring Devices and Plates
- E. Nameplates, including engraving schedules where engraved plates are specified.

1.03 DRAWINGS

A. The drawings are diagrammatic and show the general extent and arrangement of the work required which shall be followed as closely as the actual construction site conditions and work of the other trades will permit.

1.04 QUALITY ASSURANCE

- A. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.
- B. Coordination of the work: Contractor shall become familiar with the conditions of the job site, and with the landscape drawings, drawings of other disciplines and specifications and plan the installation of the electrical work to conform with that shown and specified so as to provide the best possible assembly of the combined work of the trades.

1.05 REFERENCES

- A. ANSI C80.1 Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.3 Electrical Metallic Tubing, Zinc Coated.

- C. ANSI C80.5 Rigid Aluminum Conduit.
- D. NECA (INST) Standard of Installation; National Electrical Contractors Association.
- E. NEMA FB 1 Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- F. NFPA 70 National Electrical Code latest edition.
- **1.06** Provide as-built reproducible drawings showing all outlets with circuit numbers at each outlet and maintenance manuals for all new equipment.
- **1.07** Warranties for labor and materials 1 year from the date of final acceptance of the work.
- **1.08** In addition to material and equipment specified, also provide all incidental materials required to effect complete installation. Such incidental materials include solders, tapes, caulking, mastics, gaskets, etc.
- **1.09** The Contractor will be held responsible to have examined the site and premises and satisfied himself as to existing conditions under which he will be obligated to operate in performing his part of the work or that which will in any manner affect the work under this contract.
- **1.10** Provide wiring tests upon completion of work and make adjustments as necessary for satisfactory operation of system.

PART 2 - PRODUCTS

- 2.01 MATERIALS AND EQUIPMENT GENERAL
 - A. Materials and equipment shall be new, current models of manufacturers, Bare complete identification by manufacturer and Bare UL labels where applicable.For an explanation of options and Contractor's product selection procedures, see Section 01 60 00 "Product Requirements."

2.02 CONDUIT, RACEWAYS AND FITTINGS

- A. Rigid Steel Conduit
 - 1. Rigid steel conduit shall be full weight, pipe size, finished inside and out by hot-dip galvanizing after fabrication, and shall conform with ANSI C80.1 and UL.
 - 2. Couplings shall be electroplated steel, compression type.
 - 3. Insulating Bushings: Threaded polypropylene or thermo-setting phenolic rated 150°C minimum.
 - 4. Insulated grounding Bushings: Threaded cast malleable iron body with insulated throat and steel "lay-in" ground lug with compression screw.
 - 5. Insulated Metallic Bushings: Threaded cast malleable iron body with plastic insulated throat rated 150°C.
 - 6. Running threads are not acceptable.
- B. Non-Metallic Conduit

1. Schedule 40 PVC underground is an acceptable conduit material.

2.03 CONDUITS AND FITTINGS

- Α. Rigid galvanized steel or IMC shall be galvanized. Coupling and connectors shall be galvanized or cadmium plated: Allied Tube and Conduit. Triangle, or equal.
- Conduit Fittings: Provide watertight compression type conduit fittings for electrical metallic 2.04 tubing installed in wet location. Fittings for rigid galvanized steel or IMC shall be threaded.

2.05 CONDUCTORS

- Conductors for within dwelling unit and garage shall be NM cable complying with NEC Article Α. 334.
- Β. Conductors for exterior shall be soft drawn, annealed copper wire 98% conductivity bearing UL label.
- C. Insulation: Provide the following (600 volt):
- Type THW, XHHW insulated wire for conductors #2 or larger D.
- Type THHN/THWN for all wire smaller than #2 Ε.
- F. Manufacturers: Southwire, Anaconda, Rome, General Cable, Cerro Wire, or equal.

2.06 WIRE CONNECTION

- Wire Joints: Wires in sizes from #18 to #8 AWG, stranded conductor, with insulation rated 105 Α. degrees C. or less shall be joined with electrical spring connectors of three part construction incorporating a non-restricted, zinc coated steel spring enclosed in a steel shell with an outer jacket of vinyl plastic with a flexible insulating skirt.
- Β. Mechanical Compression Connectors and Taps: Stranded conductors from #6 AWG to 750 Kcmil shall be joined or tapped using bolted pressure connectors having cast bronze compression bolts. Fittings shall be wide range-taking and designed to facilitate the making of parallel taps, tees, crosses or end-to-end connections. Split-bolt connectors will not be acceptable.
- Fixture Connections: Splice fixture wire to circuit wiring with solderless connectors as specified C. above in paragraph A.
- Terminating Lugs: Conductors from size No. 6 AWG to 750 MCM, copper, shall be terminated D. using tin plated hydraulically operated crimping tools and dies as stipulated by the lug manufacturer. Lugs shall be 3M "Scotchlok" series 30014, Burndy Type Ya-L series, or equal.
- E. Splicing and Insulating Tape (600 volts and below): General purpose electrical tape shall be suitable for temperatures from minus 18 degrees C to 105 degrees C, shall be black, ultraviolet proof, self-extinguishing, 7 mil thick vinyl with a dielectric strength of 10,000 volts. Apply 4 layers half-lap with 2" over-lay on each conductor.
- Insulating Putty (600 volts and below): Pads or rolls of non-corrosive, self-fusing, one eight inch F. thick rubber putty with PVC backing sheet. Putty shall be suitable for temperatures from minus 17.8 degrees C to 37.8 degrees C and shall have a dielectric strength of 570 volts/mil minimum.
- G. Insulating Resin: Two Part liquid epoxy resin with resin and catalyst in pre measured, sealed mixing pouch. Resin shall have a set up time of approximately 30 minutes at 21.1 degrees C, and shall have thermal and dielectric properties equal to the insulation properties of the cables immersed in the resin.
- Η. Terminal Strip Connectors: Terminate wire in locking tongue style, pressure type, solderless lug where applicable. Ι.
 - Wire Connectors:

- J. #6 AWG and larger: Thomas and Betts "Lock-Tite", Burndey, "Quicklug" or OZ Type PT/PTC.
- K. #8 AWG and smaller: Scotch spring steel with insulated cap, Thomas and Betts, "STA-KON Piggy" with insulator or ideal, wire nut or wing nut type.

2.07 OUTLET BOXES

- A. Standard outlet boxes: Galvanized, die formed or drawn steel, knock-out type of size and configuration best suited to the application indicated on the plans. Minimum box size, 4 inch square by 1-1/2 inch deep, indoor use. FS cast boxes are required for outdoor use.
- B. Cast Metal Outlet Boxes: FS cast boxes are required for outdoor use. Four-inch round, galvanized cast iron alloy with threaded hubs and mounting lugs as required. Boxes shall be furnished with cast cover plates of the same material as the box and neoprene cover gaskets. Thomas and Betts, Crouse-Hinds VXF series, Appleton JBX series or equal.
- C. Conduit Outlet Bodies: Cadmium plated, cast iron alloy. Obround conduit outlet bodies with threaded conduit hubs and neoprene gasketed, cast iron covers. Outlet bodies shall be used to facilitate pulling of conductors or to make changes in conduit direction only. Splices are not permitted in conduit outlet bodies. Thomas and Betts, Crouse Hinds Form 8 Condulets, Appleton form 35 Unilets, or equal.
- D. Wiring Devices:
- E. Duplex Receptacles: 20A, 125V, 3 wire, grounded, NEMA 5-15R, tamper resistant, Pass & Seymour S885TRWCC14 decorator style or equal.
- F. GFI Receptacles: 20A, 125V, 3 wire, Nema 5-15R, tamper resistant, Pass & Seymour S1595NTLTRWCC8 or equal.
- G. Outdoor Receptacles: shall be 20A, 125V, 3-wire, Nema 5-15R, Pass & Seymour S1595TRWCC8 with while in use cover or equal.
- H. Switches: Lighting switches shall be 20A, 3 wire. Shall be Pass & Seymour 2601-W decorator style or equal. 3-way switch shall be Pass & Seymour 2603-W or equal.
- I. Dimmer Switches: Dimmer have full-on bypass mode. Shall be Pass & Seymour 91180-W decorator style or equal. 3-way dimmer switch shall be Pass & Seymour 91183-W or equal.

2.08 PULL AND JUNCTION

- A. Sheet Metal Boxes: Use standard outlet or concrete ring boxes wherever possible; otherwise use minimum 15 gauge get metal, NEMA 1 boxes, sized to code requirements with covers secured by cadmium plated machine screws located 6 inches on centers. Circle AW Products, Hoffman Engineering Co., or equal.
- B. Cast Metal Boxes: Use standard cast malleable iron outlet or device boxes wherever possible; otherwise use cadmium plated, cast malleable iron junction boxes with bolt-on, interchangeable conduit hub plates with neoprene gaskets. Appleton RS series; Crouse Hinds RS series, or equal.

2.09 ELECTRICAL SUPPORTING DEVICES

- A. Concrete Fasteners: Phillips "Red-Head" or equal, self drilling expansion type concrete anchor.
- B. Conduit Straps: Hot-dip galvanized, cast malleable iron, two hole type strap with cast clampbacks and spacers as required. OZ/Gedney No. 14-50G strap and #141G spacer; Efcor No. 231 strap, and No.131 spacer; or equal.
- C. Construction Channel: 1-1/2 inch by 1-1/2 inch 12 gauge galvanized steel channel with 17/32 inch diameter bolt holes, 1-1/2 inch on center, in the base of the channel. Kindorf 905 series, Unistrut P-1000-HS or equal.
- D. Cable Ties and Clamps: Thomas and Betts Co. "Ty-Raps" Panduit "Pan-Ty" or equal one piece, nylon, reusable type lashing ties.

E. Fasteners (General) : Wood screws for fastening to wood. Machine screws for fastening to steel. Toggle bolts for fastening to hollow concrete block, gypsum board, or plaster walls. Expansion anchors for attachments to pre-poured concrete.

2.10 IDENTIFYING DEVICES

- A. Nameplates: Type NP: Engraved black bakelite, 1 inch by 3-1/2 inch, 1/8 inch high white letters, machine screw retained. For permanent identification of all switchboards, panelboards, circuit breakers in separate enclosures, motor starters, relays, time switches, disconnect switches and other cabinet-enclosed apparatus including terminal cabinets or match existing as closely as possible.
- B. Legend Plates: Type LP: Die-stamped metal legend plate with mounting hole and positioning key for attachment to panel mounted operators' devices. Engraved paint-filled characters as specified.
- C. Wire & Terminal Markers: Self-adhering, pre-printed vinyl with self-laminating wrap around strip. Markers shall be legible after termination. Brady B191 series, Thomas & Betts WSL series or equal.
- D. Conductor Phase Markers: Thomas & Betts WCPHAS series or similar in addition to colored marking as specified under this section of the specifications.

2.11 GROUNDING AND BONDING

- A. Ground Rods
- B. Manufacturer: Blackburn, Erico, or approved Equal
- C. Size: 3/4" x 10' Ground Rods
- D. Grounding Electrode Conductor, 2/0 for foundation foots, and per NEC.
- E. Grounding Well Christy Box, Valve Box

PART 3 - EXECUTION

3.01 GENERAL

- A. General: Exact locations of distances and devices shall be taken from field measurements and approved by the architect prior to rough in.
- B. Provide all wiring connections for equipment furnished under other sections of the contract documents.

3.02 CONDUIT AND RACEWAY APPLICATIONS

- A. Rigid Steel Conduit: For all exterior applications, all conduits larger than 2" trade diameter, indoor, below eight (8) feet.
- B. Electrical Metallic Tubing (EMT): Interior only and above eight (8) feet or when entering a panel from above.
- C. Liquidtight Flexible Metallic Conduit: In damp and wet locations for connections to motors, transformers, vibrating equipment and machinery. Connections to all pump motors, flow switches, and similar devices.
- D. Rigid Galvanized: Install for all underground and exterior runs. Minimum conduit size shall be $\frac{34}{2}$.

3.03 WIRE

- A. Wire Sizes: Provide no wire smaller than #12 for lighting, receptacles or other circuits. Provide stranded wire for wire larger than #10.
- B. Wiring for two circuits in bedrooms can be Southwire NM-B 2/2 or equal.
- C. Wires installed in exterior locations shall be THWN. NM-B conductors shall not be installed in exterior locations.
- D. NM-B conductors shall be installed in interior locations only.

3.04 CONDUIT INSTALLATION

A. General

- 1. All conduit runs shown on the plans are sized based on the use of rigid steel conduit and THWN copper conductors. If conductor type is changed the contractor shall be responsible for resizing conduits to meet code. In no case is conduit to be sized smaller than 3/4" trade diameter.
- 2. Low voltage wiring shall be installed in conduit, minimum 3/4" trade diameter.
- 3. Conduits shall be tightly covered and well protected during construction using metallic bushings and bushing "pennies" to seal open ends.
- 4. In making joints in rigid steel conduit, ream conduit smooth after cutting and threading.
- 5. Clean any conduit in which moisture or any foreign matter has collected before pulling in conductors. Paint all field threaded joints to prevent corrosion.
- 6. In all empty conduits or ducts, install an 1100 pound tensile strength polyethylene pulling rope.
- 7. Conduit systems shall be electrically continuous throughout. Install code size, uninsulated, copper grounding conductors in all conduit runs, grounding conductor shall be bonded to conduit, equipment frames and properly grounded.
- B. Layout:
 - 1. All new conduits shall be concealed. Any field conditions that does not allow concealment of conduits shall be reviewed with the Architect prior to rough-in.
 - 2. Locations of conduit runs shall be planned in advance of the installation and coordinated with concrete work, plumbing and framing.
 - 3. Where practical install conduits in groups in parallel vertical or horizontal runs and at elevations that avoid unnecessary off-sets.
 - 4. Low voltage conduit shall be grouped separately and labelled every 10 ft interval as to system (i.e. fire, control, etc)
 - 5. Exposed conduit shall be run parallel or at right angles to the centerlines of the columns and beams.
 - 6. Conduits shall not be placed closer than 12 inches from a parallel hot water or steam line or three inches from such lines crossing perpendicular to the runs.
 - 7. In long runs of conduit, provide sufficient pull boxes per NEC inside buildings to facilitate pulling wires and cables. Support pull boxes from structure independent of conduit supports. These pull boxes are not shown on the plans.
- C. Supports:
 - 1. All raceway systems shall be secured to building structures using specified fasteners, clamps and hangers spaced according to Code.
 - 2. Support single runs of conduit using two hole pipe straps. Where run horizontally on walls in damp or wet locations, install "clamp blocks" to space conduit off the surface.
 - 3. Multiple conduit runs shall be supported using "trapeze" hangers fabricated from 3/8 inch diameter, threaded steel rods secured to building structures. Fasten conduit to construction channel with standard two hole pipe clamps. Provide lateral seismic bracing for hangers.

- D. Installation
 - 1. Locate and install anchors, fasteners, and supports in accordance with NECA "Standard of Installation".
 - 2. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.
 - 3. Do not drill or cut structural members.
 - 4. Rigidly weld support members or use hexagon-head bolts to present neat appearance with adequate strength and rigidity. Use spring lock washers under all nuts.
 - 5. Install surface-mounted cabinets and panelboards with minimum of four anchors.
 - 6. In wet and damp locations use steel channel supports to stand cabinets and panelboards 1 inch (25 mm) off wall.
 - 7. Use sheet metal channel to bridge studs above and below cabinets and panelboards recessed in hollow partitions.
- E. Terminations and Joints
 - 1. Raceways shall be joined using specified couplings or transition couplings where dissimilar raceway systems are joined.
 - 2. Rigid conduit connection to enclosures shall be made by Myers type grounding hubs only. EMT connections to enclosures shall be made with compression connector with grounding lock-nuts or bushings.
 - 3. Conduit terminations exposed at weatherproof enclosures and cast outlet boxes shall be made watertight using appropriate connectors and hubs.Install expansion couplings where any conduit crosses a building separation or expansion joint
 - 4. Install cable sealing bushings on all conduits originating outside the building walls and terminating in switchgear, cabinets or gutters inside the building. Install cable sealing bushings or caulk conduit terminations in all grade level or below grade exterior pull, junction or outlet boxes.
- F. Penetrations:
 - 1. Furnish and install metal sleeves for all exposed interior conduit runs passing through concrete floors or walls. Following conduit installation, seal all penetrations using non-iron bearing, chloride free, non-shrinking, dry-pack, grouting compound.
 - 2. Install specified watertight conduit entrance seals and membrane clamps at all below grade wall and floor penetrations. Conduits penetrating exterior building walls and building floor slab shall be insulated rigid steel.
 - 3. Conduits penetrating rated walls, floors, etc. shall be fireproofed.

3.05 WIRING DEVICES

- A. Receptacles:
 - 1. General Areas: General provisions for receptacles shall comply with NEC Article 210.52.A.1-2.
 - 2. Kitchen Areas: Receptacles shall be provided in compliance with NEC Article 210.52.B and 210.52.C.
 - 3. Restrooms: Receptacles shall be provided in compliance with NEC Article 210.52.D.
 - 4. Family room, dining room, living room, dens, bedrooms, sunrooms, closets and hallways shall have devices that are Arc Fault Circuit-Interrupter (AFCI) protected or have breakers that are AFCI rated per NEC article 210.12.
- B. Switches:
 - 1. Controls for lighting shall comply with 2005 Title 24 Residential Compliance Manual.

3.06 CABLE AND WIRE INSTALLATION

- A. Examination
 - 1. Verify that interior of building has been protected from weather.
 - 2. Verify that mechanical work likely to damage wire and cable has been completed.
 - 3. Verify that raceway installation is complete and supported.
 - 4. Verify that field measurements are as indicated.
- B. Preparation
 - 1. In existing conduits that will be reused, pull out existing conductors.
 - 2. Completely and thoroughly swab raceway before installing wire.
 - 3. Use 50/50 solution of Simple Green. Use CO2 to blow water and soap into conduit let soak to break up dried out pulling compounds, then pull conductors. Pull one conductor at a time if will not pull all out together.
- C. General:
 - Conductors shall not be in conduit until all work of any nature that may cause injury is completed. Care should be taken in pulling conductors that insulation is not damaged. U.L. approved non-petroleum base and insulating type pulling compound shall be used as needed.
 - 2. All cables shall be installed and tested in accordance with manufacturer's requirements and warranty.
 - 3. Block and tackle, power driven winch or other mechanical means shall not be used in pulling conductors of size smaller than AWG # 1.
- D. Splicing and Terminating:
 - 1. All aspects of splicing and terminating shall be in accordance with cable manufacturer's published procedures.
 - 2. Make up all splices in outlet boxes with connectors as specified herein with separate tails of correct color to be made up to splice. Provide at least six (6) inches of tails packed in box after splice is made up.
 - 3. All wire and cable in panels, control centers and equipment enclosures shall be bundled and clamped.
 - 4. Encapsulate splices in exterior outlet, junction and pull boxes using insulating resin kits. All splices for exterior equipment in pump rooms shall be made up watertight.
 - 5. Insulate mechanical compression taps AWG # 1/0 and larger using pre-molded, snap-on insulating boots or specified conformable insulating putty overwrapped with two half-lapped layers of insulating tape.
- E. Identification:
 - 1. Securely tag all branch circuits, noting the purpose of each. Mark conductors with vinyl wrap-around markers. Where more than two conductors run through a single outlet, mark each circuit with the corresponding circuit number at the panelboard.
 - 2. Color code conductors size #6 and larger using specified phase color markers and identification tags.
 - 3. All terminal strips are to have each individual terminal identified with specified vinyl markers.
 - 4. All identification shall be legible and readable after completion of installation.

3.07 ELECTRICAL CONNECTIONS

- A. Make electrical connections in accordance with equipment manufacturer's instructions.
- B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.
- C. Connect heat producing equipment using wire and cable with insulation suitable for temperatures encountered.

- D. Provide receptacle outlet to accommodate connection with attachment plug.
- E. Provide cord and cap where field-supplied attachment plug is required.
- F. Install suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.
- G. Install disconnect switches, controllers, control stations, and control devices to complete equipment wiring requirements.
- H. Install terminal block jumpers to complete equipment wiring requirements.
- I. Install interconnecting conduit and wiring between devices and equipment to complete equipment wiring requirements.

3.08 INSTALLATION OF BOXES

- A. General:
 - 1. Leave no un-used openings in any box. Install close-up plugs as required to seal openings.
 - 2. Exposed outlet boxes and boxes in damp or wet locations shall be cast metal with gasketed cast metal cover plates.
- B. Box Layout:
 - 1. Outlet boxes shall be installed at the locations and elevations shown on the drawings or specified herein. Make adjustments to locations as required by structural conditions and to suit coordination requirements of other trades.
 - 2. Install junction or pullboxes where required to limit bends in conduit runs to not more than 360 degrees or where pulling tension achieved would exceed the maximum allowable for the cable to be installed. Consult wire and cable manufacturer.

3.09 INSTALLATION OF WIRING DEVICES

- A. General
 - 1. Install all devices flushmounted unless otherwise noted on the drawings. Comply with layout drawings for general locations. Consult Architect or Owner for locations that have conflict with other devices or manner not suitable for installation. Avoid place devices behind open doors.
 - Align devices horizontally and vertically. Device plates shall be aligned vertically with tolerance of 1/16". All four edges of device plates shall be in contact with the wall surface.
 - 3. Mounting height as indicated on the drawings and according to ADA requirements.
 - 4. Install device plates on all outlet boxes. Provide blank plates for all empty, spare, and boxes for future use.
 - 5. Securely fasten devices into boxes and attach appropriate cover plates.
 - 6. Caulk around edges or outdoor device plates and boxes when rough wall surfaces prevent raintight seal. Use caulking materials approved by Architect/Engineer.
 - 7. Fireproof around opening of devices located or penetrating firerated construction assemblies.
- B. Identification
 - 1. Label all outlets and switches. Mark each wiring device where circuits and panel supply is derived from.
 - 2. All identification shall be legible and readable after completion of installation.

3.10 INSTALLATION OF FUSES AND DISCONNECT SWITCHES

- A. Fuses shall be installed where noted on plans. Sizes are based on design data provided by air conditioning mfg. Listed or labeled equipment must be in accordance with instructions included in the listing or labeling. Be sure to observe maximum branch circuit fuse size labels.
- B. Disconnect switches shall be mounted on the units. Coordinate with mechanical contractor to ensure switches are not mounted on a removable access panel.
- C. Label each disconnect fuse with equipment tag as indicated in the single line diagram, or as directed.

3.11 ELECTRICAL EQUIPMENT GROUNDING

- A. Ground non-current carrying metal parts of electrical equipment enclosures, frames, conductor raceways or cable trays to provide a low impedance path for line-to-ground fault current and to bond all non-current carrying metal parts together. Install a ground conductor in each raceway system in addition to conductors shown. Equipment ground conductor shall be electrically and mechanically continuous from the electrical circuit source to the equipment to be grounded. Size ground conductors per NEC 250 unless larger conductors are shown on the drawings.
- B. Grounding conductors shall be identified with green insulation, except where a bare ground conductor is specified. Where green insulation is not available, on larger sizes, black insulation shall be used and suitably identified with green tape at each junction box or device enclosure.
- C. Install metal raceway couplings, fittings and terminations secure and tight to insure good ground continuity. Provide insulated grounding bushing and bonding jumper where metal raceway is not directly attached to equipment metal enclosure and at concentric knock-outs.
- D. Motors shall be connected to equipment ground conductors with a conduit grounding bushing and with a bolted solderless lug connection on the metal frame.
- E. Conduit terminating in concentric knockouts at panelboards, cabinets and gutters shall have insulated grounding bushings and bonding jumpers installed interconnecting all such conduits and the panelboard cabinet, gutter, etc.
- F. Performance: Measure ground resistance, 25 Ohms or less.

3.12 BONDING

- A. Bonding shall be provided to assure electrical continuity and the capacity to conduct safely any fault current likely to be imposed.
- B. Bonding shall be in accordance with NEC Article 250, Part V

3.13 WORKMANSHIP

- A. Preparation, handling, and installation shall be in accordance with manufacturer's written instructions and technical data particular to the product specified and/or accepted equal except as otherwise specified. Coordinate work and cooperate with others in furnishing and placing this work. Work to reviewed shop drawings for work done by others and to field measurements as necessary to properly fit the work.
- B. Conform to the National Electrical Contractor's Association "Standard of Installation" for general installation practice.

3.14 INSTALLATION

A. Install in accordance with manufacturer's instructions.

END OF SECTION 26 05 00

SECTION 26 56 17

EXTERIOR LIGHTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

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

1.02 SUMMARY

- A. Section Includes:
 - 1. Exterior luminaires, lamps, and ballasts.

1.03 DEFINITIONS

- A. CCT: Correlated color temperature.
- B. CRI: Color rendering index.
- C. Fixture: See "Luminaire."
- D. Luminaire: Complete lighting unit, including lamp, reflector, and housing.

1.04 ACTION SUBMITTALS

- A. Product Data: For each type of luminaire.
 - 1. Arrange in order of luminaire designation.
 - 2. Include data on features, accessories, and finishes.
 - 3. Include physical description and dimensions of the luminaires.
 - 4. Lamps, including life, output (lumens, CCT, and CRI), and energy-efficiency data.
- B. Shop Drawings: For nonstandard or custom luminaires.
 - 1. Include plans, elevations, sections, and mounting and attachment details.
 - 2. Include details of luminaire assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 3. Include diagrams for power, signal, and control wiring.
- C. Samples: For each luminaire and for each color and texture specified with factory-applied finish.
- D. Samples for Initial Selection: For each type of luminaire with custom, factory-applied finish.

- 1. Include Samples of luminaires and accessories involving color and finish selection.
- E. Samples for Verification: For each type of luminaire.
 - 1. Include Samples of luminaires and accessories to verify finish selection.
 - 2. Lamps and ballasts, installed.
 - 3. Cords and plugs.
 - 4. Support system.
- F. Product Schedule: For luminaires and lamps. Use same designations indicated on Drawings.
- G. Delegated-Design Submittal: For luminaire supports.
 - 1. Include design calculations for luminaire supports and seismic restraints and for designing vibration isolation bases.

1.05 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Luminaires.
 - 2. Structural members to which luminaires will be attached.
 - 3. Underground utilities and structures.
 - 4. Existing underground utilities and structures.
 - 5. Above-grade utilities and structures.
 - 6. Existing above-grade utilities and structures.
 - 7. Building features.
 - 8. Vertical and horizontal information.
- B. Qualification Data: For testing laboratory providing photometric data for luminaires.
- C. Seismic Qualification Data: For luminaires, accessories, and components, from manufacturer.
 - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
 - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
 - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- D. Product Certificates: For each type of the following:
 - 1. Ballast for bi-level and dimmable luminaires.
 - 2. Lamp.
 - 3. Photoelectric relay.
- E. Product Test Reports: For each luminaire, for tests performed by manufacturer and witnessed by a qualified testing agency.
- F. Sample warranty.

- 1.06 CLOSEOUT SUBMITTALS
 - A. Operation and Maintenance Data: For luminaires to include in operation and maintenance manuals.

1.07 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Lamps: 1 of each type and rating installed. Furnish at least one of each type.

1.08 QUALITY ASSURANCE

- A. Luminaire Photometric Data Testing Laboratory Qualifications: Luminaire manufacturers' laboratory accredited under the NVLAP for Energy Efficient Lighting Products.
- B. Luminaire Photometric Data Testing Laboratory Qualifications: Provided by an independent agency, with the experience and capability to conduct the testing indicated, that is an NRTL as defined by OSHA in 29 CFR 1910.7, accredited under the NVLAP for Energy Efficient Lighting Products and complying with applicable IES testing standards.
- C. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.
- D. Mockups: For exterior luminaires, complete with power and control connections.
 - 1. Obtain Architect's approval of luminaires in mockups before starting installations.
 - 2. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.09 DELIVERY, STORAGE, AND HANDLING

A. Protect finishes of exposed surfaces by applying a strippable, temporary protective covering prior to shipping.

1.10 FIELD CONDITIONS

- A. Verify existing and proposed utility structures prior to the start of work associated with luminaire installation.
- B. Mark locations of exterior luminaires for approval by Architect prior to the start of luminaire installation.

1.11 WARRANTY

- A. Warranty: Manufacturer and Installer agree to repair or replace components of luminaires that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures, including luminaire support components.
 - b. Faulty operation of luminaires, ballasts, and accessories.
 - c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 2. Warranty Period: Two year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Luminaires shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
- B. Seismic Performance: Luminaires and lamps shall be labeled vibration and shock resistant.
 - 1. The term "withstand" means "the luminaire will remain in place without separation of any parts when subjected to the seismic forces specified and the luminaire will be fully operational during and after the seismic event."

2.02 LUMINAIRE REQUIREMENTS

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. NRTL Compliance: Luminaires shall comply with UL 1598 and be listed and labeled for indicated class and division of hazard by an NRTL.
- C. FM Global Compliance: Luminaires for hazardous locations shall be listed and labeled for indicated class and division of hazard by FM Global.
- D. UL Compliance: Comply with UL 1598. Luminaire assembly consists of UL-recognized components and Luminaire assembly listed for wet location.
- E. Lamp base complying with ANSI C81.61 or IEC 60061-1.
- F. Nominal Operating Voltage: 120 V ac.
- G. EMI Filters: Factory installed to suppress conducted EMI as required by MIL-STD-461E. Fabricate luminaires with one filter on each ballast that is indicated to require a filter.
- H. Lamp Rating: Lamp marked for outdoor use and in enclosed locations.
- I. Source Limitations: Obtain luminaires from single source from a single manufacturer.

J. Source Limitations: For luminaires, obtain each color, grade, finish, type, and variety of luminaire from single source with resources to provide products of consistent quality in appearance and physical properties.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for luminaire electrical conduit to verify actual locations of conduit connections before luminaire installation.
- C. Examine walls for suitable conditions where luminaires will be installed.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 GENERAL INSTALLATION REQUIREMENTS

- A. Comply with NECA 1.
- B. Use fastening methods and materials selected to resist seismic forces defined for the application and approved by manufacturer.
- C. Install lamps in each luminaire.
- D. Fasten luminaire to structural support.
- E. Supports:
 - 1. Sized and rated for luminaire weight.
 - 2. Able to maintain luminaire position after cleaning and relamping.
 - 3. Support luminaires without causing deflection of finished surface.
 - 4. Luminaire-mounting devices shall be capable of supporting a horizontal force of 100 percent of luminaire weight and a vertical force of 400 percent of luminaire weight.
- F. Wall-Mounted Luminaire Support:
 - 1. Attached to structural members in walls.
- G. Wiring Method: Install cables in raceways. Conceal raceways and cables.
- H. Install luminaires level, plumb, and square with finished grade unless otherwise indicated.
- I. Coordinate layout and installation of luminaires with other construction.
- J. Section 26 05 00 for wiring connections and wiring methods.

3.03 CORROSION PREVENTION

- A. Aluminum: Do not use in contact with earth or concrete. When in direct contact with a dissimilar metal, protect aluminum by insulating fittings or treatment.
- B. Steel Conduits: Comply with Section 26 05 33 "Raceways and Boxes for Electrical Systems." In concrete foundations, wrap conduit with 0.010-inch-thick, pipe-wrapping plastic tape applied with a 50 percent overlap.

3.04 FIELD QUALITY CONTROL

- A. Inspect each installed luminaire for damage. Replace damaged luminaires and components.
- B. Perform the following tests and inspections:
 - 1. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
- C. Illumination Tests:
 - 1. Measure light intensities at night. Use photometers with calibration referenced to NIST standards. Comply with the following IES testing guide(s):
 - a. IES LM-5.
 - b. IES LM-50.
 - c. IES LM-52.
 - d. IES LM-64.
 - e. IES LM-72.
 - 2. Operational Test: After installing luminaires, switches, and accessories, and after electrical circuitry has been energized, test units to confirm proper operation.
- D. Luminaire will be considered defective if it does not pass tests and inspections.
- E. Prepare a written report of tests, inspections, observations, and verifications indicating and interpreting results. If adjustments are made to lighting system, retest to demonstrate compliance with standards.

3.05 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain luminaires.

3.06 STARTUP SERVICE

A. Burn-in all lamps that require specific aging period to operate properly, prior to occupancy by Owner. Burn-in fluorescent and compact fluorescent lamps intended to be dimmed, for at least 100 hours at full voltage.

3.07 ADJUSTING

- A. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting the direction of aim of luminaires to suit occupied conditions. Make up to two visits to Project during other-than-normal hours for this purpose. Some of this work may be required during hours of darkness.
 - 1. During adjustment visits, inspect all luminaires. Replace lamps or luminaires that are defective.
 - 2. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
 - 3. Adjust the aim of luminaires in the presence of the Architect.

END OF SECTION 26 56 17

SECTION 31 10 00

SITE CLEARING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Clearing vegetation, debris, trash and other materials within limits indicated
- B. Grubbing of vegetation within limits indicated
- C. Stripping of topsoil within limits indicated
- D. Removing above-grade site improvements within limits indicated
- E. Disposing of objectionable material
- 1.02 RELATED SECTIONS
- A. Section 31 2000, Earth Moving
- B. Section 32 1216, Asphalt Paving
- C. Section 32 1313, Concrete Pavement
- **1.03** RELATED DOCUMENTS
- A. Geotechnical Report: Geotechnical Investigation Report, County of San Mateo Government Center, Lathrop House Relocation Project, dated 9/13/17 by Kleinfelder.

1.04 DEFINITIONS

- A. ANSI: American National Standards Institute
- B. CAL-OSHA: California Occupational Safety and Health Administration
- C. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of weeds, roots, and other deleterious materials.
- 1.05 SUBMITTALS
 - A. Follow submittal procedure outlined in Section 01 1000, Supplemental General Requirements.
- B. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.

1.06 QUALITY ASSURANCE

- A. Do not remove or prune trees without first securing a permit from the appropriate agency.
- B. Prune to the standards of the International Society of Arborists and to ANSI A300.
- **1.07** PROJECT CONDITIONS
- A. Except for materials indicated to be stockpiled or to remain the Owner's property, cleared materials are the Contractor's property. Remove cleared materials from site and dispose of in lawful manner.
- B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store where indicated on plans or where designated by the Owner's Representative. Avoid damaging materials designated for salvage.
- C. Unidentified Materials;

- 1. If unidentified materials are discovered, including hazardous materials that will require additional removal other than is required by the Contract Documents, immediately report the discovery to the Owner's Representative.
- 2. If necessary, the Owner's Representative will arrange for any testing or analysis of the discovered materials and will provide instructions regarding the removal and disposal of the unidentified materials.

PART 2 - PRODUCTS

- 2.01 SOIL MATERIALS
- A. Backfill excavations resulting from demolition operations with on-site or import materials conforming to engineered fill defined in Section 3120 00, Earth Moving.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Protect and maintain benchmarks and survey control points during construction.
- B. Locate and clearly flag trees and vegetation to remain or to be relocated.
- C. Protect existing site improvements to remain during construction.

3.02 RESTORATION

- A. Restore damaged improvements to their original condition, as acceptable to the Owner's Representative.
- B. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, as directed by the Owner's Representative.
 - 1. Employ a qualified arborist, licensed in jurisdiction where the Project is located, to submit details of proposed repairs and to repair damage to trees and shrubs.
 - 2. Replace trees that cannot be repaired and restored to full-growth status, as determined by the Owner's Representative.

3.03 UTILITIES

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner's Representative or others unless authorized in writing by the Owner's representative, and then only after arranging to provide temporary utility services according to requirements indicated.
- B. Coordinate utility interruptions with utility company affected.
- C. Do not proceed with utility interruptions without the permission of the Owner's Representative and utility company affected. Notify Owner's Representative and utility company affected two working days prior to utility interruptions.
- 3.04 CLEARING AND GRUBBING
 - A. Areas to be graded shall be cleared of existing vegetation, rubbish, existing structures, and debris.
 - B. Remove obstructions, shrubs, grass, and other vegetation to permit installation of new construction. Removal includes digging out stumps and obstructions and grubbing roots.
 - C. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
- D. Use only hand methods for grubbing within drip line of remaining trees.
- 3.05 SITE STRIPPING
- A. Strippings and spoils shall be disposed at an off-site location, per geotechnical recommendations.

- B. Remove vegetation before stripping soil.
- C. Surface soils that contain organic matter should be stripped. In general, the depth of required stripping will be relatively shallow (i.e. less than 2 inches); deeper stripping and grubbing may be required to remove isolated concentrations of organic matter or roots.
- D. Remove trash, debris, weeds, roots, and other waste materials.
- E. Stockpile soil materials designated to remain on site at a location approved by the Owner's Representative at a location away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
- F. Do not stockpile soil within drip line of remaining trees.
- 3.06 SITE IMPROVEMENTS
- A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.
- 3.07 BACKFILL
- A. Place and compact material in excavations and depressions remaining after site clearing in accordance with Section 31 2000, Earth Moving.
- 3.08 DISPOSAL
- A. Remove surplus soil material, unsuitable soil, obstructions, demolished materials, and waste materials, including trash and debris, and legally dispose of them off the Owner's property.

END OF SECTION 31 1000

SECTION 31 2000

EARTH MOVING

PART 1 - GENERAL

- **1.01** SECTION INCLUDES
- A. Excavation and/or embankment from existing ground to subgrade, including soil sterilant, for roadways, driveways, parking areas, building pads, walks, paths, or trails and any other site improvements called for on the Plans.
- 1.02 SECTION EXCLUDES
- A. Earthwork related to underground utility installation shall be performed in accordance with Sections 31 2100, Utility Trenching and Backfill.
- **1.03** RELATED SECTIONS
 - A. Section 31 1000, Site Clearing
- **1.04** RELATED DOCUMENTS
- A. Geotechnical Report: Geotechnical Investigation Report, County of San Mateo Government Center, Lathrop House Relocation Project, dated 9/13/17 by Kleinfelder.
- B. ASTM
 - 1. D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
- 2. D1586, Method for Penetration Tests and Split-Barrel Sampling of Soils
- 3. D2487, Classification of Soils for Engineering Purposes
- 4. D3740, Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction.
- 5. D4318. Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils
- 6. E329, Specification for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
- 7. E548, Guide for General Criteria Used for Evaluating Laboratory Competence
- C. California Building Code, California Code of Regulations, Title 24, Part 2, Chapter 18, Soils and Foundations, and Chapter 33, Safeguards During Construction
- D. Caltrans Standard Specifications, 2015
 - 1. Section 17, General
 - 2. Section 19, Earthwork
- E. CAL/OSHA, Title 8.
- 1.05 DEFINITIONS
- A. Borrow: Approved soil material imported from off-site for use as Structural Fill or Backfill.
- B. Excavation: Removal of material encountered above subgrade elevations.
- 1. Authorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions as shown on plans or authorized by the Geotechnical Engineer.
- 2. Unauthorized Over-Excavation: Excavation below subgrade elevations or beyond indicated horizontal dimensions without authorization by the Geotechnical Engineer. Unauthorized excavation shall be without additional compensation.

- C. Geotechnical Testing Agency: An independent testing agency qualified according to ASTM E329 to conduct soil materials and rock definition testing, as documented according to ASTM D3740 and ASTM E548.
- D. Structural Backfill: Soil materials approved by the Geotechnical Engineer and used to fill excavations resulting from removal of existing below grade facilities, including trees.
- E. Structural Fill: Soil materials approved by the Geotechnical Engineer and used to raise existing grades.
- F. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material ³/₄ cubic yards or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D1586, exceeds a standard penetration resistance of 100 blows/2 inches.
- G. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man made stationary features constructed above or below grade.
- H. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, base or topsoil materials.
- I. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of weeds, roots, and other deleterious materials.
- J. Unsuitable Material: Any soil material that is not suitable for a specific use on the Project. The Geotechnical Engineer will determine if a soil material is unsuitable.
- K. Relative Compaction: In-place dry density of soil expressed as percentage of maximum dry density of same materials, as determined by laboratory test procedure ASTM D1557.
- L. Utilities: onsite underground pipes, conduits, ducts and cables.
- 1.06 SUBMITTALS
 - A. Follow submittal procedure outlined in Section 01 1000, Supplemental General Requirements.
 - B. Samples:
 - 1. If required by the Geotechnical Engineer, provide 20 pound samples, sealed in airtight containers, tagged with source locations and suppliers of each proposed soil material from on-site or borrow sources, 72 hours prior to use. Do not import materials to the Project without written approval of the Geotechnical Engineer.
 - 2. Provide materials from same source throughout work. Change of source requires approval of the Geotechnical Engineer.
 - C. Classification according to ASTM D2487 of each onsite or borrow soil material proposed for fill and backfill.
 - 1. Laboratory compaction curve in conformance with ASTM D1557 for each onsite or borrow soil material proposed for fill and backfill.

1.07 QUALITY ASSURANCE

- A. Provide an independent testing agency qualified according to ASTM E329 to conduct soil materials and rock definition testing, as documented according to ASTM D3740 and ASTM E548.
- B. Conform all work and materials to the recommendations or requirements of the Geotechnical Report and meet the approval of the Geotechnical Engineer.
- C. Conform all work in accordance with Caltrans Standard Specification Section 17, General and Section 19, Earthwork.

- D. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D1557.
- E. Perform excavation, filling, compaction and related earthwork under the observation of the Geotechnical Engineer. Materials placed without approval of the Geotechnical Engineer will be presumed to be defective and, at the discretion of the Geotechnical Engineer, shall be removed and replaced at no cost to the Owner. Notify the Geotechnical Engineer at least 24 hours prior to commencement of earthwork and at least 48 hours prior to testing.
- F. The Geotechnical Engineer will perform observations and tests required to enable him to form an opinion of the acceptability of the Project earthwork. Correct earthwork that, in the opinion of the Geotechnical Engineer, does not meet the requirements of these Technical Specifications and the Geotechnical Report.
- G. Upon completion of the construction work, certify that all compacted fills and foundations are in place at the correct locations, and have been constructed in accordance with sound construction practice. In addition, certify that the materials used are of the types, quality and quantity required by these Technical Specifications and the Geotechnical Report. The Contractor shall be responsible for the stability of all fills and backfills constructed by his forces and shall replace portions that in the opinion of the Geotechnical Engineer have been displaced or are otherwise unsatisfactory due to the Contractor's operations.
- H. Finish subgrade tolerance at completion of grading:
 - 1. Building and paved areas: ± 0.05 feet
 - 2. Other areas: ± 0.10 feet

1.08 PROJECT CONDITIONS

- A. Promptly notify the Owner's Representative of surface or subsurface conditions differing from those disclosed in the Geotechnical Report. First notify the Owner's Representative verbally to permit verification and extent of condition and then in writing. No claim for conditions differing from those anticipated in the Contract Documents and disclosed in the Geotechnical Report will be allowed unless the Contractor has notified the Owner's Representative in writing of differing conditions prior to the Contractor starting work on affected items.
- B. Protect open excavations, trenches, and the like with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.
- C. Prevent erosion of freshly-graded areas during construction and until such time as permanent drainage and erosion control measures have been installed in accordance with Erosion Control plans.
- D. Temporarily stock-pile fill material in an orderly and safe manner and in a location approved by the Owner's Representative.
- E. Environmental Requirements: When unfavorable weather conditions necessitate interrupting earthwork operation, areas shall be prepared by compaction of surface and grading to avoid collection of water. Provide adequate temporary drainage to prevent erosion. After interruption, compaction specified in last layer shall be re-established before resuming work.

PART 2 - PRODUCTS

- 2.01 SOIL MATERIALS
- A. General: On-site soils are considered suitable for use as fill provided the materials are placed in accordance with Geotechnical Recommendations. Highly expansive soils shall not be used as select structural fill, or used as backfill for trenches located within hardscape areas.

- B. Imported fill soils, if required, should be predominantly granular in nature, and should be free of organics, debris, or rocks over 3 inches in size, and shall be approved by the Geotechnical Engineer before importing to the site. Imported non-expansive soils shall have a Plasticity Index less than 15 as determined by ASTM D4318, an R-value of at least 20, and fines content between 15 and 65 percent. Import fill shall be considered non-hazardous per Department of Toxic Substances Control guidelines (DTSC, 2017) and non-corrosive per Caltrans Corrosion Guidelines (Caltrans, 2015).
- C. The native soils encountered in our borings, minus debris, rock particles larger than 3 inches in maximum dimension, and deleterious materials, should be suitable for use as engineered fill in the proposed building areas. All import fill soils should be nearly free of organic or other deleterious debris, essentially non-plastic, and contain rock particles less than 3 inches in maximum dimension. In general, well-graded mixtures of gravel, sand, non-plastic silt, and small quantities of cobbles, rock fragments, and/or clay are acceptable for use as import fill. All imported fill materials to be used for engineered fill should be sampled and tested by the project Geotechnical Engineer prior to being transported to the site. Import fill guidelines are further discussed in the Geotech report.

2.02 SOIL STERILANT

A. Commercial chemical for weed control, registered by EPA. Provide granular, liquid or wet-able powder form.

PART 3 - EXECUTION

- 3.01 GENERAL
- A. Perform work in accordance with Caltrans Standard Specification Section 19, Earthwork, as modified by the Contract Documents.
- B. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.
- C. The use of explosives will not be permitted.
- D. Grading and earthwork operations shall be observed and tested by a representative of the Geotechnical Engineer for conformance with the project plans/specifications and the geotechnical recommendations. This work includes site preparation, selection of satisfactory materials, and placement and compaction of the subgrades and fills. Sufficient notification prior to commencement of earthwork is essential to make certain that the work will be properly observed.
- 3.02 CONTROL OF WATER AND DEWATERING
 - A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding the site and surrounding area. Provide dewatering equipment necessary to drain and keep excavations and site free from water.
 - B. Dewater during backfilling operation so that groundwater is maintained a least 1 foot below level of compaction effort.
 - C. Obtain the Geotechnical Engineer's approval for proposed control of water and dewatering methods.
 - D. Protect subgrades from softening, undermining, washout and damage by rain or water accumulation.
 - E. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations.
- F. Maintain dewatering system in place until dewatering is no longer required.

3.03 WET WEATHER CONDITIONS

- A. Do not prepare subgrade, place or compact soil materials if subgrade or materials are above optimum moisture content.
- B. If the Geotechnical Engineer allows work to continue during wet weather conditions, conform to supplemental recommendations provided by the Geotechnical Engineer.

3.04 BRACING AND SHORING

- A. Conform to California and Federal OSHA requirements.
- B. Place and maintain such bracing and shoring as may be required to support the sides of the excavations for the proper protection of workmen; to facilitate the work; to prevent damage to the facility being constructed; and to prevent damage to adjacent structures or facilities. Remove all bracing and shoring upon completion of the work.
- C. Be solely responsible for all bracing and shoring and, if requested by the Owner's Representative, submit details and calculations to the Owner's Representative. The Owner's Representative may forward the submittal to the Geotechnical Engineer, the Consulting Engineer and/or the California Division of Industrial Safety for their review. The Contractor's submittal shall include the basic design, assumed soils conditions and estimation of forces to be resisted, together with plans and specifications of the materials and methods to be used, and shall be prepared by a civil engineer or structural engineer registered in California. No excavations related to the proposed facility shall precede a response to the submittal by the Owner's Representative.
- D. Be solely responsible for installing and extracting the sheathing in a manner which will not disturb the position or operation of the facility being constructed or adjacent utilities and facilities.

3.05 TOPSOIL STRIPPING

A. Remove topsoil in accordance with Section 31 1000, Site Clearing.

3.06 EXCAVATION

- A. Excavate earth and rock to lines and grades shown on plans and to the neat dimensions indicated on the plans, required herein or as required to satisfactorily compact backfill.
- B. Remove and dispose of large rocks, pieces of concrete and other obstructions encountered during excavation.
- C. Excavation through buried concrete and other unknown obstructions will require specialized techniques for demolition and removal.
- D. Where forming is required, excavate only as much material as necessary to permit placing and removing forms.
- E. Provide supports, shoring and sheet piles required to support the sides of excavations or for protection of adjacent existing improvements.

3.07 GRADING

- A. Uniformly grade the Project to the elevations shown on plans
- B. Finish ditches, gutters and swales to the sections, lines and grades indicated and to permit proper surface drainage.

3.08 SUBGRADE PREPARATION

A. The bottom of the over-excavation as well as all subgrade areas that will receive engineered fill for support of structures should be scarified to a depth of 12 inches, uniformly moisture-conditioned to a moisture content of at least 2 percent above the optimum moisture content, and compacted as engineered fill to between 88 and 92 percent relative compaction (ASTM D 1557).

- B. Overexcavation of disturbed soil, scarification and compaction of the exposed subgrade, and replacement with engineered fill may be required to sufficiently densify all disturbed soil.
- C. Subgrade shall be maintained in a moist, but not wet, condition by periodically sprinkling water prior to the placement of additional fill or installation of roads. Subgrade that has been permitted to dry out and loosen or develop desiccation cracking should be scarified, moisture conditioned, and recompacted as recommended above.
- D. Install underground utilities and service connections prior to final preparation of subgrade and placement of base materials for final surface facilities. Extend services so that final surface facilities are not disturbed when service connections are made.
- E. Prepare subgrades under the structural section of paved areas, curbs, gutters, walks, structures, other surface facilities and areas to receive structural fill.
- F. Protect utilities from damage during compaction of subgrades and until placement of final pavements or other surface facilities.
- G. Obtain the Geotechnical Engineer's approval of subgrades prior to placing pavement structural section.
- **3.09** FILL PLACEMENT AND COMPACTION
 - A. In order to achieve satisfactory compaction in the subgrade and fill soils, it may be necessary to adjust the soil moisture content at the time of soil compaction per geotechnical recommendations. This may require that water be added and thoroughly mixed into any soils which are too dry or that scarification and aeration be performed in any soils which are too wet.
 - B. Obtain the Geotechnical Engineer's approval of surface to receive structural fill prior to placement of structural fill material.
 - C. Place structural fill on prepared subgrade.
 - D. Do not drop fill on structures. Do not backfill around, against or upon concrete or masonry structures until structure has attained sufficient strength to withstand loads imposed and the horizontal structural system had been installed.
 - E. Do not compact by ponding, flooding or jetting.
 - F. Perform compaction using rollers, pneumatic or vibratory compactors or other equipment and mechanical methods approved by the Geotechnical Engineer.
 - G. All fill soils, either native or imported, required to bring the site to final grade should be compacted as engineered fill. Onsite clayey fill should be uniformly moisture-conditioned to a moisture content at least 2 percent above the optimum moisture content, placed in horizontal lifts less than 8 inches in loose thickness, and compacted to between 88 and 92 percent of the maximum dry density as determined by ASTM Test Method D 1557. Imported granular fill should be uniformly moisture-conditioned to a moisture content to near the optimum moisture content, placed in horizontal lifts less than 8 inches is than 8 inches in loose thickness, and compacted to at least 90 percent of the maximum dry density. Additional fill lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.
- H. All trench backfill in building or other structural areas should be placed and compacted in accordance with the recommendations provided above for engineered fill. During backfill, mechanical compaction of engineered fill is recommended.
- 3.10 SOIL STERILIZATION
- A. Apply soil sterilant as needed under direction of Landscape Architect.
- 3.11 DISPOSAL
 - A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the Owner.

END OF SECTION 31 2000

DOCUMENT 31 23 33

TRENCHING AND BACKFILLING

PART 1 - GENERAL

1.1 SCOPE

- A. Perform all structural excavation, trenching, and backfilling work as shown and specified including, but not necessarily limited to, utility trenches, footings, foundations, walls, and irrigation lines.
- B. Related work specified elsewhere:
 - 1. Irrigation Section 32 84 00
 - 2. Landscape Soil Preparation Section 32 91 00
 - 3. Site Concrete Section 03 33 00

1.2 STANDARDS

A. Unless otherwise shown or specified, all materials and methods shall conform to Section 19 Earthwork of the State of California, Department of Transportation Standard Specifications (DTSS) as they reasonably apply to this work, except for measurement and payment requirements.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General Backfill: Backfill material shall be approved by the County's Representative prior to its use. Excavated material and excess material from site grading may be re-used for backfilling and grading, provided such fill shall be homogeneous, free from rocks, rubbish, organic material, etc., and shall consist of fragments capable of being thoroughly crushed and consolidated into a dense, uniform compact fill, and shall meet the following requirements:

<u>Sieve Size</u>	Percentage Passing
1 inch	100
3/4 inch No. 200 Plasticity index	95-100 10-75 12 maximum

PART 3 - EXECUTION

- 3.1 EXCAVATING AND BACKFILLING FOR TRENCHES
 - A. Perform all necessary excavation, shoring, pumping and dewatering and backfilling required for the proper laying of all underground pipes and conduits.
 - B. All piping in ground shall have a minimum cover of 1'-6", except as otherwise shown, and shall be laid in ditches dug true to grade and line, avoiding sharp breaks. Piping shall bear equally over its entire length at bottom of ditch. Rock or unstable material encountered at grade shall be replaced with sand fill to a depth of 6 inches below pipe.

- C. Backfill (non-drainage trenches): Fill trenches with excavated material in 6 inch to 8 inch uncompacted thick layers, compacted to 90% relative density. Backfill shall be moisture-conditioned to near-optimum in accordance with ASTM D 1557-02e1.
- D. Backfilling shall be commenced as soon as practical after subsurface work is installed and reviewed by the Engineer.
- E. No wood or debris shall be buried in any fill. The fill material shall be non-expansive, be free of perishable organic material, and shall meet the following requirements:
 - 1. Physical: 100% passing 4 inch size, 10 to 75% passing the No. 200 sieve. Plasticity Index of 12 maximum when tested in accordance with ASTM D 4318-75.
 - 2. Chemical: Salinity Limit (ECe) saturation extract of 4.0 sodium (SAR) limit of less than 8.0.
 - 3. Boron: Saturation extract concentration less than 1.0 ppm.
- F. Provide shoring, excavation pumping and other requirements as necessary at excavations for points of connection.

3.2 SURPLUS MATERIAL

A. Any excavated material which proves to be unsuitable or which is not required for backfilling shall be removed from the immediate work area and disposed of off-site.

3.3 CLEANUP

B. Upon completion of the work under this Section, remove immediately all surplus materials, rubbish and equipment associated with or used in the performance of this work. Failure to perform such cleanup operations within 48 hours shall be considered adequate grounds for having the work done by others at the Contractor's expense.

PART 4 - MEASUREMENT AND PAYMENT

4.1 Full compensation for trenching and backfilling shall be considered as included in the contract lump sum prices paid for items involved, and no separate payment shall be made therefore.

END OF DOCUMENT 31 23 33

DOCUMENT 32 01 90

LANDSCAPE MAINTENANCE

PART 1 - GENERAL

1.1 SCOPE

- A. Work in this section includes the growing and maintenance operations necessary to establish the newly planted shrubs and other plantings; to provide insect and disease control, and to maintain the irrigation system, and related construction elements.
- B. Related work specified elsewhere:
 - 1. Irrigation Section 32 84 00
 - 2. Landscape Soil Preparation Section 32 91 00
 - 3. Planting Section 32 93 00

1.2 SUBMITTALS

- A. Soil Testing: Contractor shall collect two one-quart samples in the container planting areas of the in-place topsoil 20 days after completion of planting and submit to Waypoint Analytical, Inc. of San Jose, (408) 727-0330, for maintenance period fertilizer recommendation. Test results shall be made available to the City's Representative. Sample shall be a representative composite taken from several planting areas. Cost of soil test shall be paid for by the Contractor.
- B. Herbicide/Fungicide/Insecticide: Submit a written recommendation from a State of California appropriately licensed individual along with complete product data from proposed manufacturer, for review by County Inspector and/or County's appropriately licensed individual.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Fertilizer: Used during the course of the maintenance period shall be determined by soils test required under Part 1 of this Section. For bidding purposes only, assume the use of ammonium sulfate (21-0-0) at 5 lbs. per 1000 SF, minimum of two applications.
- B. Water: During the course of construction and maintenance period water shall be paid for by the Contractor.
- C. Herbicide/Fungicide/Insecticide: Shall be a commercially available chemical recommended for this project and these plantings by a State of California appropriately licensed individual. The licensed individual shall review all planting, including but not limited to seed, sod, groundcovers, shrubs, and trees, the types and extent of soil preparation, the irrigation systems, drainage patterns, and other project characteristics to verify type, compatibility, and recommend the appropriate chemical(s) for use. Contractor shall be responsible for all overspray, spreading, runoff, plant health, and other impacts from the use of the chemical(s).

PART 3 - EXECUTION

- 3.1 TIME LIMITS: The maintenance period shall commence from the date of substantial completion of planting as defined in paragraph 3.6 below, and extend for a 90 day period thereafter, or until the acceptance of Final Completion.
- 3.2 FERTILIZER APPLICATION: Fertilizer(s) shall be applied per Waypoint Analytical, Inc. recommendations. For bidding purposes, assume initial application to be four weeks after planting and subsequent applications to be at 45-day intervals.
- 3.3 HERBICIDE APPLICATION: Herbicide shall not be used until all plant material has been planted a minimum of 20-days. All planting areas shall be kept weed-free by non-herbicide methods during this time period. Herbicide shall not be applied to any areas that are or have been seeded. Contractor must apply the material in conformance with the written recommendations of the State appropriately licensed individual.
- 3.4 BASIC REQUIREMENTS: All planting areas shall be kept weed-free at all times during the maintenance period. All pest and disease control shall be the Contractor's responsibility. All planting areas shall be kept at optimum moisture for plant growth. Settlement of soil and plants and soil erosion shall be repaired and areas replanted as required. Dying or deficient plants shall be replaced as soon as they become apparent.
- 3.5 COUNTY'S RESPONSIBILITY: Work installed under this contract that is damaged or stolen prior to Substantial Completion shall be repaired or replaced by the Contractor without cost to the County. After Substantial Completion and through the maintenance period, these damages and similar factors such as extensive litter, abuse and defacement shall be the County's responsibility to repair or replace and shall not be a part of this contract. No planting shall be guaranteed beyond the maintenance period, except as to conformance to specified species and variety, and except as to conditions specified under "Root Systems" of Landscape Planting, Section 32 93 00.
- 3.6 SUBSTANTIAL COMPLETION: Shall be deemed as the time all major plantings, including groundcover, are installed, and when all other work is satisfactorily completed (with the exception of minor items to be completed as noted upon a checklist compiled by the County's Representative). Maintenance period shall not commence until work is deemed substantially complete by the County's Representative.
- 3.7 FINAL REVIEW: Contractor shall request a final review of the project at least five days in advance of the proposed date. Failure to request this notice shall automatically extend the date of completion. The maintenance period will continue until project is deemed complete.

PART 4 - MEASUREMENT AND PAYMENT

4.1 All work under this section shall be included in the lump sum price bid for landscape maintenance and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in landscape maintenance, and related incidental work.

END OF DOCUMENT 32 01 90

SECTION 32 1100

PAVEMENT BASE COURSE

PART 1 - GENERAL

- 1.01 SECTION INCLUDES
- A. Aggregate subbase
- B. Aggregate base
- C. Cement treated base
- D. Lime stabilization
- 1.02 RELATED SECTIONS
- A. Section 31 20 00, Earth Moving
- 1.03 RELATED DOCUMENTS
 - A. Geotechnical Report: Geotechnical Investigation Report, County of San Mateo Government Center, Lathrop House Relocation Project, dated 9/13/17 by Kleinfelder.
 - B. ASTM:
 - 1. D1557, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
 - 2. D3740, Practice for Evaluation of Agencies Engaged in Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
 - 3. E329, Specification for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction
 - 4. E548, Guide for General Criteria Used for Evaluating Laboratory Competence
 - C. Caltrans Standard Specifications, 2015
 - 1. Section 24, Stabilized Soils
 - 2. Section 26, Aggregate Bases

1.04 DEFINITIONS

- A. Geotechnical Testing Agency: An independent testing agency qualified according to ASTM E329 to conduct soil materials and rock definition testing, as documented according to ASTM D3740 and ASTM E548.
- B. Rock: Rock material in beds, ledges, unstratified masses, and conglomerate deposits and boulders of rock material ³/₄ cubic yards or more in volume that when tested by an independent geotechnical testing agency, according to ASTM D1586, exceeds a standard penetration resistance of 100 blows/2 inches.
- C. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man made stationary features constructed above or below grade.
- D. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, base or topsoil materials. Perform work in accordance with Section 31 20 00, Earth Moving.

1.05 SUBMITTALS

- A. Follow submittal procedure outlined in Section 01 10 00, Supplemental General Requirements.
- B. Submit material certificates signed by the material producer and the Contractor, certifying that that each material item complies with, or exceeds the specified requirements.

1.06 QUALITY ASSURANCE

- A. Conform all work and materials to the recommendations or requirements of the Geotechnical Report and meet the approval of the Geotechnical Engineer.
- B. Percentage of compaction specified shall be the minimum acceptable. The percentage represents the ratio of the dry density of the compacted material to the maximum dry density of the material as determined by the procedure set forth in ASTM D1557.
- C. Perform installation of base materials under the observation of the Geotechnical Engineer. Materials placed without approval of the Geotechnical Engineer will be presumed to be defective and, at the discretion of the Geotechnical Engineer, shall be removed and replaced at no cost to the Owner. Notify the Geotechnical Engineer at least 24 hours prior to commencement of base material installation and at least 48 hours prior to testing.
- D. Do not project the finish surface of aggregate subbase above the design subgrade.
- E. Finish grade tolerance at completion of base installation: +0.05 feet

1.07 PROJECT CONDITIONS

- A. Protect open excavations, trenches, and the like with fences, covers and railings to maintain safe pedestrian and vehicular traffic passage.
- B. Temporarily stockpile material in an orderly and safe manner and in a location approved by the Owner.
- C. Provide dust and noise control in accordance with Section 01 10 00, Supplemental General Requirements.

PART 2 - PRODUCTS

- 2.01 AGGREGATE BASE
- A. Material: Class 2, ³/₄ inch maximum in accordance with Caltrans Standard Specification Section 26, Aggregate Bases.

PART 3 - EXECUTION

- 3.01 GENERAL
- A. Placement and compaction of material by flooding, ponding, or jetting will not be permitted.
- 3.02 WET WEATHER CONDITIONS
- A. Do not place or compact subgrade if above optimum moisture content.
- B. If the Geotechnical Engineer allows work to continue during wet weather conditions, conform to supplemental recommendations provided by the Geotechnical Engineer.
- 3.03 AGGREGATE SUBBASE
- A. Spreading and Compacting: In accordance with Caltrans Standard Specification Section 25-1.03D, Spreading and 25-1.03E, Compacting.
- 3.04 AGGREGATE BASE
- A. Watering, Spreading and Compacting: In accordance with Caltrans Standard Specification Section 26-1.03D, Spreading and 26-1.03E, Compacting.

3.05 DISPOSAL

A. Lawfully dispose of all unsuitable and excess or surplus material off-site at no cost to the Owner.

END OF SECTION 32 1100

SECTION 32 1216

ASPHALT PAVING

PART 1 - GENERAL

- 1.01 SECTION INCLUDES
 - A. Hot Mix Asphalt
 - B. Hot Mix Asphalt paving
 - C. Hot Mix Asphalt overlay
 - D. Asphalt curbs
 - E. Pavement grinding
 - F. Adjusting manholes, valves, monument covers and other structures to grade
- 1.02 RELATED SECTIONS
- A. Section 31 2000, Earth Moving
- B. Section 32 1100, Pavement Base Course
- **1.03** RELATED DOCUMENTS
- A. Geotechnical Report: Geotechnical Investigation Report, County of San Mateo Government Center, Lathrop House Relocation Project, dated 9/13/17 by Kleinfelder.
- B. ASTM
 - 1. D979: Standard Practice for Sampling Bituminous Paving Mixtures
 - 2. D1188: Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Coated Samples
 - 3. D2041: Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
 - 4. D2726: Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
 - 5. D2950: Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
 - 6. D3549: Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
- C. Caltrans Standard Specifications, 2015
 - 1. Section 20: Landscape
 - 2. Section 39: Asphalt Concrete
 - 3. Section 88: Engineering Fabrics
 - 4. Section 92: Asphalt Binder
 - 5. Section 94: Asphaltic Emulsions
 - 6. Section 96: Geosynthetics
- 1.04 DEFINITIONS
- A. ASTM: American Society for Testing Materials.
- B. Caltrans: State of California, Department of Transportation
- 1.05 QUALITY ASSURANCE
- A. Thickness of hot mix asphalt: In-place compacted thickness of asphalt courses will be determined according to ASTM D3549.

- B. Surface Smoothness: Finished surface of each asphalt course will be tested for compliance with smoothness tolerances.
- C. In-Place Density: Samples of uncompacted paving mixtures and compacted pavement will be secured by testing agency according to ASTM D979.
 - 1. Reference maximum theoretical density will be determined by averaging results from 4 samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D2041, and compacted according to job-mix specifications.
 - 2. In-place density of compacted pavement may be determined by testing core samples according to ASTM D1188 or ASTM D2726.
 - a. One core sample may be taken for every 1000 square yard or less of installed pavement, but in no case will fewer than 3 cores be taken.
 - b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D2950 and correlated with ASTM D1188 or ASTM D2726.

1.06 SUBMITTALS

- A. Follow submittal procedure outlined in Section 01 1000, Supplemental General Requirements.
- B. Job-Mix Designs: Certificates signed by manufacturers certifying that each hot mix asphalt mix complies with requirements.
- C. Material Certificates: Certificates signed by manufacturers certifying that each material complies with requirements.
- 1.07 PROJECT CONDITIONS
 - A. Environmental Limitations:
 - 1. Tack Coat: Minimum surface temperature of 60 F at application.
 - 2. Asphalt Base Course: Minimum surface temperature of 40 F and rising at application.
 - 3. Asphalt Surface Course: Minimum surface temperature of 60 F at application.
 - 4. Reinforcing Fabric: Air temperature is 50 F and rising and pavement temperature is 40 F and rising.

PART 2 - PRODUCTS

- 2.01 HOT MIX ASPHALT
 - A. Type A In accordance with Caltrans Standard Specifications Section 39-2, Hot Mix Asphalt.
 - B. Hot Mix Asphalt Materials:
 - 1. Asphalt Binder: Grade PG 64-10 in accordance with Caltrans Standard Specification Section 92, Asphalt Binders.
 - 2. Tack Coat: Grade SS1 in accordance with Caltrans Standard Specification Section 94, Asphaltic Emulsions.
 - C. Aggregates: ¾ inch max gradation for virgin aggregate and recycled asphalt pavement (RAP) in accordance with to Caltrans Standard Specification Section 39-2.02, Type A Hot Mix Asphalt.

PART 3 - EXECUTION

- 3.01 EXAMINATION
- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.

- C. If necessary, perform subgrade preparation or remediation in accordance with Section 31 20 00, Earth Moving.
- D. Notify Owner in writing of any unsatisfactory conditions. Do not begin paving until these conditions have been satisfactorily corrected.
- 3.02 PAVEMENT GRINDING
- A. Clean existing paving surface of loose or deleterious material immediately before pavement grinding.
- B. Grind conforms as indicated.
- 3.03 SOIL STERILANT
- A. Furnish and apply to areas per manufacturer's specifications.
- **3.04** SURFACE PREPARATION FOR AGGREGATE BASE MATERIALS
- A. General: Immediately before placing asphalt materials remove loose and deleterious material from substrate surfaces and ensure that prepared subgrade is ready to receive paving in accordance with Caltrans Standard Specification Section 39-2.01C(3)(b) and in accordance with Section 32 1100, Pavement Base Course.
- B. Tack Coat: Apply uniformly and at specified rates between HMA layers, to vertical surfaces of curbs, gutters and construction joints, and to existing pavement, including planed surfaces, in accordance with Caltrans Standard Specification Section 39-2.01C(3)(f).
 - 1. Allow tack coat to cure undisturbed before paving.
- 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.
- **3.05** SURFACE PREPARATION FOR PAVEMENT AT HOT MIX ASPHALT OVERLAYS
- A. Pavement Irregularities: Level with hot mix asphalt, Type A, ¹/₂ inch max aggregate.
- B. Pavement Cracks:
- 1. Less than ¼ inch wide: Clean of all dirt by compressed air jet, spray and seal with RS-1 asphaltic emulsion.
- 2. Wider than ¼ inch: Clean of all dirt by compressed air jet, spray and seal with RS-1 asphaltic emulsion and skin patch.
- C. Clean surface of all material, such as leaves, dirt, sand, gravel, water and vegetation prior to applying binder of paving asphalt to existing surface.
- **3.06** HOT MIX ASPHALT SPREADING AND COMPACTING EQUIPMENT
- A. Provide spreading and compacting equipment in accordance with Caltrans Standard Specification Section 39-2.01C(2).
- 3.07 HOT MIX ASPHALT PLACEMENT
- A. Place, spread and compact hot mix asphalt to required grade, cross section, and thickness in accordance with Caltrans Standard Specification Sections 39-2.01C(2), 39-2.01C(3), and 39-2.01C(8).
- B. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.08 JOINTS

- A. Construct joints to ensure continuous bond between adjoining paving sections in accordance with Caltrans Standard Specification Sections 39-2.01C(4)
 - 1. Construct joints free of depressions with same texture and smoothness as other sections of asphalt course.
 - 2. Clean contact surfaces and apply tack coat.
 - 3. Offset longitudinal joints in successive courses a minimum of 6 inches.
- 4. Offset transverse joints in successive courses a minimum of 24 inches.
- 5. Compact joints as soon as hot mix asphalt will bear roller weight without excessive displacement.

3.09 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact in accordance with Caltrans Standard Specification Sections 39-2.01C(2).
- B. Compaction Requirements: Average Density to be 92 percent of reference maximum theoretical density according to ASTM D2041, but not less than 90 percent nor greater than 96 percent.
- C. Finish Rolling: Finish roll paved surfaces to remove roller marks while asphalt is still warm.
- D. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while still hot, with back of rake or smooth iron. Compact thoroughly using tamper or other satisfactory method.
- E. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh asphalt. Compact by rolling to specified density and surface smoothness.
- F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.
- **3.10** HOT MIX ASPHALT CURBS AND DIKES
- A. Construction: Place over compacted surfaces in accordance with Caltrans Standard Specification Section 39-2.01C(9). Apply a light tack coat prior to construction, unless pavement surface is still tacky and free of dust.
- B. Shape: Place hot mix asphalt to curb cross section indicated.
- 3.11 ADJUSTING MANHOLES, VALVES, MONUMENT COVERS AND OTHER STRUCTURES TO GRADE
- A. Remove pavement, using vertical cuts, as needed to remove frame and provide for concrete collar. Do not damage adjacent pavement.
 - 1. Circular Covers: Cut circle with radius 6 inches larger than cover and concentric with cover.
 - 2. Rectangular Covers: Cut rectangle 6 inches larger than cover on all sides.
- B. Install grade rings or blocking as needed to raise cover to finish grade.
- C. Pour concrete collar:
 - 1. Bottom of Collar: Top of existing collar or 6 inches below top of proposed collar, whichever is at a higher elevation.
 - 2. Top of Collar: Bottom of existing asphalt pavement.
 - 3. Apply tack coat to all exposed surfaces.
 - 4. Fill excavation with hot mix asphalt and, while still hot, compact flush with adjacent surface.

3.12 INSTALLATION TOLERANCES

- A. Hot Mix Asphalt Pavement:
 - 1. Course thickness and surface smoothness shall be in accordance with Caltrans Standard Specification Section 39-2.01A(4)(i)(iii)
 - 2. Total Thickness: Not less than indicated.
- B. Trench Patch:
- 1. Compacted surface: Within 0.01 foot of adjacent pavement.
- 2. Do not create ponding.
- C. Adjust Covers:
 - 1. Compacted surface: Up to 0.01 foot higher, and no lower, than adjacent pavement.
 - 2. Do not create ponding.

END OF SECTION 32 1216

DOCUMENT 32 14 13

INTERLOCKING PAVERS

PART 1 - GENERAL

- 1.1 SCOPE
 - A. Furnish and install all interlocking pavers as indicated on the drawings and specified herein.
- 1.2 QUALITY CONTROL
 - A. Manufacturer's specifications: All work shall be completed in accordance with the manufacturer's specifications and recommendations.
 - B. Material Samples: Contractor shall supply one-quart samples of sand setting bed, aggregate base and layout a 5' x 5' sample of pavers for the County's Representative's approval.

PART 2 - PRODUCTS

- 2.1 MATERIALS
 - A. Soil Sterilant: To be chlorate-borate material with not less than 40% sodium chlorate and soluble in water to the extent of 3.5 lbs. of product per gallon of water ("Chipman-Chlorax 40", Atrazine 80W, or approved equal).
 - B. Interlocking Pavers: Shall be "Antiqued Flat Top" paver by Calstone or approved equal. Gray charcoal tan color, 60mm thickness, pattern 4, combination pack. Available through Calstone, 1155 Aster Ave, Sunnyvale, CA 94086, (408) 984-8800.
 - C. Sand Setting Bed: Shall be a plaster concrete type, clean, washed, with 100% passing a No. 3 sieve size and a maximum 3% passing a No. 200 sieve size.
 - D. Aggregate Base: As indicated on drawings.
 - E. Edge Restraint: Shall be "Snap Edge" or approved equal. Available through Evergreen Supply Co., 2984 Monterey Road, San Jose, CA 95111, (408) 225-4186.

PART 3 - EXECUTION

3.1 LAYOUT

- A. The intent of the drawings is to provide flexibility in the specific layout of the pavers to avoid as much cutting of individual units as possible. Contractor shall verify all dimensions of pavers, site constraints and relationships of same, and report discrepancies or potential problems to the Landscape Architect prior to commencing work. All cuts shall be sawn or cut to fit precisely and neatly.
- B. Elevations: Refer to civil engineering drawings for specific site elevations, slope and other controls on the pavers. Variation in slope of all pavers shall not exceed 1/4 inch in any 10-foot dimension along a straight edge.

3.2 INTERLOCKING PAVER INSTALLATION

- A. Soil Sterilant: Shall be applied to the subgrade soil of areas to be paved prior to baserock operations and uniformly applied per manufacturer's recommendations; minimum rate of 2.5 to 3.0 lbs./1000 square feet and watered with a minimum of 3 gallons/100 square feet. Contractor shall take all precautions necessary to avoid spray onto, or runoff into, planting areas.
- B. Shall be in accordance with manufacturer's specification for interlocking pavers. Paving work shall be plumb, level, and true to line and grade; shall be installed to properly coincide and align with adjacent work and elevations. All edges must be retained to secure the perimeter stones and the sand laying course. Paving stones should be installed hand-tight and level on the undisturbed sand laying course. String lines should be used to hold pattern lines true. A roller vibrator or plate vibrator should be used to compact the stones and to vibrate the sand up into the joints between the stones. Plaster sand should be spread over the installed paving stones so that it may be vibrated into the joints between the stones. Excess sand should be swept into the joints or disposed of from the surface area. The completed paving stone installation should be washed down and cleaned to provide a clean, finished, workmanlike installation. Cutting of paving stones can be done with either a double-bladed breaker or a masonry saw, however, when cutting is required in roadways or precision designed areas, a masonry saw is recommended.
- C. Edge Restraint: Shall be installed in accordance with manufacturer's specification.
- 4.1 The contract price paid per square foot for Interlocking Pavers and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Interlocking Pavers, and related incidental work.

END OF DOCUMENT 32 14 13

DOCUMENT 32 84 00

IRRIGATION

PART 1 - GENERAL

1.1 SCOPE

- A. Work in this section includes installation of a complete automatic irrigation system, including excavation for points of connection, trenching, piping, equipment, electrical components and incidentals related thereto.
- B. Related work specified elsewhere:
 - 1. Trenching and Backfilling Section 31 23 33
 - 2. Landscape Soil Preparation Section 31 91 00

1.2 QUALITY CONTROL

- A. Standards: Unless otherwise shown or specified, all materials and methods shall conform to section 20-3 of the State of California Department of Transportation Standard Specifications (DTSS) as they reasonably apply to this work except for measurement and payment requirements.
- B. Reviews: Contractor shall specifically request the following reviews prior to progressing with the work:
 - 1. Layout of system.
 - 2. Points-of-connection excavation.
 - 3. Trenching and pipe assembly.
 - 4. Coverage adjustment of all heads and valve box installation.
 - 5. Operation of system.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Quality: All materials shall be new and the best quality available unless otherwise specified. All materials shall be clearly marked by manufacturer on all material, containers, or certificates of contents for inspection.
- B. Plastic Pipe and Fittings: All mainline pipe ³/₄" 1-¹/₂" in size shall be polyvinyl chloride (PVC) Schedule 40; sizes 2" 3" shall be Class 315; and sizes 4" and larger shall be Class 200 twin-seal gasketed pipe. Unless otherwise noted, all laterals shall be Class 200 PVC pipe; solvent weld fittings, if used, shall be Schedule 40, or Schedule 80 as called for on details. Solvent for piping shall be as recommended by manufacturer. All pipe shall be clearly labeled with manufacturer type and specification numbers.
- C. Control Wire: Type UF, 600 v. insulation, minimum size #14, copper, common to be white, valve control wire to be red or black, U.L. approved for irrigation control use; splices shall be "Scotch-Lok" seal pack, or equal.
- D. Valve Boxes: Precast concrete or plastic of type and size indicated; free of all cracks, chips or structural defects. Boxes subject to vehicular traffic shall be concrete and have heavy duty steel covers. Boxes shall be sized to provide a 4" minimum clearance around the irrigation equipment inside the box, excluding all pipes and fittings.

- E. Irrigation Equipment: Refer to drawings. Any desired substitutions require submittals in duplicate for specific written approval.
- F. Thread Sealant: Permatex Thread Sealant, part #14H, white in color.

PART 3 - EXECUTION

- 3.1 GRADING: Contractor shall be responsible for installing all irrigation features to their finished grade and at depths indicated. All rough grading shall be completed before trenching commences.
- 3.2 LAYOUT AND TRENCHING: All features of the irrigation system shall be staked and pipe alignments marked prior to trenching for review by the Engineer.
- 3.3 BACKFILLING: Do not cover joints until system has been reviewed by the Engineer. Backfill with damaging rocks and debris shall not be permitted. Compact all backfill and eliminate settlement. Previously prepared soil is to be replaced as the top six inches of backfill.
- 3.4 FABRICATION: Snake pipe from side to side when trench exceeds thirty feet in length. All manifolds shall be neat, orderly, and constructed for ease in maintenance operations. Construct manifolds to allow valve boxes to be parallel to each other and to adjacent walls, walks, curbs, and buildings. Cuts and joints shall be free of burrs, smooth, and minimum in quantity. All pipe above finish grade shall be galvanized unless noted otherwise.
- 3.5 PIPELINES: All pipelines shown parallel on the drawing may be installed in a common trench. Where pipelines are shown parallel or adjacent to shrub or groundcover areas, they shall be installed in these areas. All changes in depth of pipe shall be accomplished using 45-degree fittings.
- 3.6 TESTING: Test mainline at 125 psi for six (6) hours. Test and repair as necessary until satisfactory test conditions are obtained.
- 3.7 CONTROL WIRE: Install control wire in pipe trenches wherever practical. Tape to underside of pipe every ten feet. Loop wire every 20 feet. Splices shall occur in valve boxes only and shall be accomplished utilizing approved connectors. All wire shall be installed below or level with the bottom of adjacent pipes. All wiring above finish grade shall be enclosed in steel conduit. Splices shall be installed in junction boxes.
- 3.8 ADJUSTMENTS: Adjust all heads for arc, radius, riser height, and distribution for uniform and optimum coverage. Such adjustments shall include nozzle changes without additional cost to the County.
- 3.9 FINISH GRADE: Unless otherwise noted, all heads shall be set at finish grade and on double or triple swing joints as called for on drawings. The top of all valve boxes shall be flush with finish grade.
- 3.10 SOIL MANAGEMENT REPORT: Contractor shall prepare and submit a soil management report as required by the State to achieve compliance with mandated water conservation requirements as prescribed in AB 1881. Soil management report shall be submitted to the County and a copy of the soil management report shall be provided to the County's representative.
- 3.11 CONTROLLER: Contractor shall clearly label and sequence stations for ease in maintenance operations. Station valves to operate as they are located around the site. Fasten controller and wire conduits securely with conduit clamps and screws. Contractor shall complete all forms and labels shipped with and/or attached to the controller; attach his own name, address and phone number to the controller via a permanent label; and shall properly execute and file with the County the controller and valve guarantees.

3.12 RECORD DRAWING: Contractor shall regularly update a print of the system and any changes made to the system throughout the project. Features below ground shall be indicated with at least two measurements from surface features such as walks, building, or sprinkler heads. All changes shall be recorded on this plan before trenches are backfilled. The record drawing shall be completed and submitted to the City before final payment shall be made for work installed.

PART 4 - MEASUREMENT AND PAYMENT

4.1 All work under this section shall be included in the lump sum price bid for Irrigation and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in Irrigation and related incidental work.

END OF DOCUMENT 32 84 00

DOCUMENT 32 91 00

LANDSCAPE SOIL PREPARATION

PART 1 - GENERAL

1.1 SCOPE

- A. Furnish and install all landscape soil preparation as shown and specified, including, but not necessarily limited to, the following: topsoil placement, organic amendment and fertilizer placement, and finish grading.
- B. Related work specified elsewhere:
 - 1. Planting Section 32 93 00

1.2 QUALITY CONTROL

- A. Reviews: Contractor shall specifically request at least two working days in advance the following reviews prior to progressing with the work:
 - 1. Completion of rough grading
 - 2. Verification of amendment incorporation depths
 - 3. Finish grade
- B. Certification: Written certificates stating quantity, type, and composition, weight and origin for all amendments and chemicals shall be delivered to the County's Representative before the material is used on the site.
- C. Soil Samples: Contractor shall provide a one-quart sample of the native or import topsoil to Waypoint Analytical, Inc. of San Jose, (408) 727-0330, for their testing for conformance to this specification. No material shall be delivered to the site, graded onsite, or otherwise modified until the County's Representative approves the material. All testing costs shall be paid for by the Contractor. In addition, a five-gallon representative sample of native soil shall be supplied to the testing laboratory from areas previously covered by paving for contamination testing. Contamination testing requires four to five weeks. Contractor shall allow for sufficient time for such testing prior to construction. Testing costs for the initial samples and costs for any additional samples due to non-compliance shall be paid for by the Contractor.
- D. Amendment Samples: Contractor shall provide a one-quart sample of each proposed amendment to Waypoint Analytical, Inc. of San Jose, (408) 727-0330, for their testing for conformance to this specification. No material shall be delivered to the site until the County's Representative approves the samples. Testing costs shall be paid for by the Contractor.
- E. Planting Areas: All areas to be planted, whether container stock, or otherwise, are defined as planting areas in these documents.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Import Topsoil: Shall be a homogeneous mineral soil classified as sandy loam, or fine sand. Particle size data shall be based upon standard USDA methodology. Of the The Lathrop House Relocation Project

material falling in the sand category, a minimum of 80% shall fall in the fine sand range .05 - 5mm. Gravel content greater than 2.0mm shall be less than 15%. Import topsoil shall not contain more silt and clay than the on-site native soil. The sum of silt plus clay shall be less than 25%; the soil shall be nonsaline as determined on the saturation extract. Salinity shall not exceed 3.0 mmhos/cm, boron shall not exceed 1.0 ppm and the sodium absorption ratio (SAR) shall not exceed 6.0. Soil reaction as determined on a saturated paste shall fall between 5.5 and 7.5. The soil shall be free of organic herbicides, or other growth-restricting chemicals. Contamination may be tested by greenhouse trials using rye grass and radish as test crops using the proposed import soil as substrate. These trials require four to five weeks for completion.

- B. Fertilizer: Shall be determined from soils analysis results. For purposes of bidding only, assume the use of 6-20-20 commercial fertilizer, 20-10-5 planting tablets by Agriform International Chemicals, Inc., and iron sulfate.
- C. Organic Amendment: Shall be BFI super-humus compost.
 - 1. BFI Super Humus Compost shall conform to:

Gradation: A minimum of 90% of the material by weight shall pass a 1/2" screen. Material passing the 1/2" screen shall meet the following criteria.

85-1009.51 mm (3/8")50-802.38 mm (No. 8)	percent passing	sieve designation
0-40 500 micron (No. 3	50-80	

Organic Content: A minimum of 50% based on dry weight and determined by ash method. A minimum of 250 lbs. organic matter per cubic yard of compost.

Carbon to Nitrogen Ratio: Maximum 35:1 if material is claimed to be nitrogen stabilized.

Soluble Salts: Soluble nutrients typically account for most of the salinity levels but sodium should account for less than 25% of the total. To avoid a leaching requirement, the addition of the compost shall result in a final ECe of the amended soil of less than 4.0 ds/m @ 25 degrees C. as determined in a saturation extract. Use the following table to determine the maximum allowable ECe (ds/m of saturation extract) of compost at desired use rate and allowable ECe increase.

Moisture Content: 35-60%.

Contaminants: The compost shall be free of contaminants such as glass, metal and visible plastic.

Maturity: Physical characteristics suggestive of maturity include:

Color:	dark brown to black	

Odor: acceptable = none, soil like, musty or moldy unacceptable = sour, ammonia or putrid

Particle Characterization: identifiable wood pieces are acceptable but the balance of material should be soil-like without recognizable grass or leaves.

PART 3 - EXECUTION

- 3.1 LIMITS AND GRADES
 - A. Grade Review: Prior to commencing soil preparation operations, Contractor shall request a review by the County's Representative to verify specified limits and grades of work completed to date and soil preparation work to commence. Contractor shall complete the rough grading as necessary to round the top and toe of all slopes, providing naturalized contouring to integrate newly graded areas with the natural topography. Finish grading under this section shall be completed in accordance with the grades indicated on the civil's drawings.

3.2 STRIPPING AND STOCKPILING OF EXISTING TOPSOIL

- A. Excavation Areas: Planting areas previously under asphalt shall be removed to a six-inch depth in order to replace with import topsoil for planting.
- B. Existing Grade Unchanged: In those areas where grades are not proposed to be modified (areas of no excavation or fill) the native topsoil shall be left in place. All debris, as well as all rocks over 0.75 inches in diameter, shall be removed from the surface of planting areas.

3.3 TOPSOIL PLACEMENT

- A. Topsoil Incorporation: After all planting areas have been stripped and excavated, they shall be ripped to a depth of seven inches. Next, a three-inch layer of topsoil shall be uniformly distributed over these areas and thoroughly incorporated into the top six inches of subsoil by ripping, scraping, or tilling to mix the subsoil with the topsoil into a homogeneous mixture. The remaining layer of topsoil shall then be uniformly distributed in the planting areas and compacted in place to 85% compaction. The total depth of topsoil to be placed shall be as indicated on the drawings.
- B. Existing Topsoil to Remain: In those planting areas where native topsoil is to be left in place, cross rip to a depth of ten inches. Then incorporate the amendments to a homogeneously blended soil depth of six inches.

3.4 ORGANIC AMENDMENT AND FERTILIZER INCORPORATION

A. Materials and Rates: Materials determined from the soils test shall be uniformly distributed throughout all irrigated planting areas and incorporated to a homogeneously blended soil depth of six inches. Assume per 1000 square feet:

6 cubic yards nitrogen stabilized organic amendment 30 pounds commercialfertilizer (6-20-20) 10 pounds iron sulfate

Note: Iron sulfate should be applied cautiously, avoiding contact with concrete, since permanent staining may result. Any such stained concrete shall be replaced at Contractor's expense.

3.5 PLANT PITS

A. Plant Pit Preparation: Plant pits shall have their sides and bottoms loosened or otherwise broken to prevent glazed or compacted surfaces, and shall be as shown on the planting detail.

3.6 BACKFILL

A. Backfill Material and Placement: Only unamended soil shall be used beneath the root ball; cultivate bottom of plant pit to improve porosity. Backfill around sides of rootball shall be the amended soil taken from adjacent prepared areas. Spread material excavated from plant pits onto adjacent areas as replacement. Should additional backfill be necessary, a mixture of one-third organic amendment/fertilizer mix and two-thirds topsoil may be used.

3.7 PLANT TABLETS

A. Tablet Quantities: All container plants shall receive plant tablets as follows:

one-gallon plants	two 21-gram tablets
five-gallon plants	five 21-gram tablets

Space the tablets evenly around the root ball halfway up backfill touching side of root ball. County's Representative may require excavation of up to 5% of all plants selected at random for conformance review.

3.8 ACID BACKFILL MIX

A. Mix Quantities: For those plants noted shall be 1/2 by volume of the above specified backfill mix and 1/2 by volume of sphagnum peat moss (pre-moistened). This shall be thoroughly premixed with "49er Brand Acid Food" 4-8-5 at 1/2 the manufacturer's suggested application rate.

3.9 FINISH GRADING

A. Grading Operations: Contractor shall finish grade all irrigated planting areas unless otherwise noted, and shall remove all rocks and clods over one cubic inch to a depth as shown on the plans to allow for the installation of mulch. All areas shall be smooth and uniformly graded. All erosion damage during the construction period shall be repaired by the Contractor.

PART 4 - MEASUREMENT AND PAYMENT

4.1 All work under this section shall be included in the lump sum price bid for Landscape Soil Preparation and shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved for Landscape Soil Preparation, and related incidental work.

END OF DOCUMENT 32 91 00

DOCUMENT 32 93 00

PLANTING

PART 1 - GENERAL

- 1.1 SCOPE
 - A. Furnish and install all mulch, container plantings, and related work thereto.
 - B. Related work specified elsewhere:
 - 1. Landscape Soil Preparation Section 32 91 00
 - 2. Landscape Maintenance Section 32 01 90

1.2 QUALITY CONTROL

- A. Reviews: The Contractor shall specifically request the following reviews prior to progressing with the work:
 - 1. Plant material approval
 - 2. Plant layout
 - 3. Finish grade
 - 4. Substantial completion
 - 5. Final completion

1.3 SUBMITTALS

A. Plant Material: Within 10 days after award of contract, Contractor shall submit notice to the County's Representative certifying the quantity and species of plant material ordered, the nursery supplying the material, any plant material unavailable at the time, and proposed plant substitutions. No plants shall be ordered or delivered prior to written acceptance by the County's Representative.

PART 2 - PRODUCTS

- 2.1 MATERIALS
 - A. Nomenclature and Labels: Plant botanical names shall conform to "Standardized Plant Names", second edition, and secondly, "A Checklist of Woody Ornamental Plants of California", Manual 32, University of California. All plants of each clone, species, and cultivar shall be delivered to the site labeled with their full botanical names. Every plant species shall be labeled with no less than one label for every ten plants of a species.
 - B. Quality: Minimum quality of all plant material shall conform to prevailing published specifications of the California Association of Nurserymen and the American Association of Nurserymen's American Standard for Nursery Stock unless otherwise indicated. Additional specifications shall be indicated on the drawings.
 - C. Quantities: The quantities shown on the plant list and in labels are for the County's Representative's use and are not to be construed as the complete and accurate limits of the contract. Contractor shall furnish and install all plants shown schematically on the drawings. Any unlabelled plants shall be considered as the smaller size shown for that type on the drawings.
 - D. Root Systems: All container-grown stock shall be grown in its container for at least six months prior to its planting. Contractor shall allow one percent of the quantity of plants for

removal and inspection. Any plant material, within one year following the final acceptance of the project, determined by the County's Representative to be defective, restricted, declining or otherwise deficient due to abnormal root growth, shall be replaced by Contractor to the equal condition of adjacent plants at the time of replacement.

- E. Health: Foliage roots and stems of all plants shall be of vigorous health and normal habit of growth for its species. All plants shall be free of all diseases, insect stages, burns, or disfiguring characteristics.
- F. Untrue Species: All plant material, within two years following the final acceptance of the project, determined by the County's Representative to be untrue to the species, clone, and/or variety specified, shall be replaced by the Contractor, to the equal condition of adjacent plants at the time of replacement.

PART 3 - EXECUTION

- 3.1 GENERAL
 - A. Plant Material Approvals: Before planting operations commence, all or a representative sampling of plant material shall be reviewed at the site by the County's Representative. Defective plants installed without such review shall be removed from the site upon request by the County's Representative and an acceptable plant substituted in its place.
 - B. Layout: Only those plants to be planted in any single day shall be laid out. Locations of all plants shall be reviewed prior to planting. Plants installed without this review shall be transplanted as directed by the County's Representative.
 - C. Protection of Plants: Contractor shall maintain all plant material in a healthy growing condition prior to and during planting operations. Contractor shall be responsible for vandalism, theft and damage to plant material until the commencement of the maintenance period.
 - D. Root Systems: Contractor shall be responsible for inspection of all root systems on plant materials. Inspection shall include, but not be limited to, checking for rootbound stock, encircling roots at the perimeter of the container, girdling roots at the top surface of the rootball, and other defective root conditions. Such inspections shall include the complete removal of soil from one percent of plant material containers, or at least one plant from each nursery and each plant type. Contractor shall cut defective or potentially defective girdling, rootbound, and encircling roots and spread the root system into the surrounding backfill. Plants with excessively defective root systems shall be rejected by the Contractor.
 - E. Pruning: Contractor shall do no pruning without the specific approval of the County's Representative. Plants pruned without approval shall be replaced by the Contractor, if required.
 - F. Basins: Construct basins as necessary to water plants. Remove basins from all plants under a permanent irrigation system prior to final inspection and finish grade the planting area. Basins for plants to be hand-watered shall remain in place. Basin bottoms shall drain to berm away from plant stem.
 - G. Plant Pits, Backfill and Finish Grading: See Soil Preparation Section 32 91 00 for materials and installation requirements.
 - H. Cleanup: After completion of all operations, Contractor shall remove all trash, excess soil and other debris. All walks and pavement shall be swept and washed clean, leaving the entire area in a neat, orderly condition.

PART 4 - MEASUREMENT AND PAYMENT

- 4.1 The contract unit price paid for Shrubs, 1 gallon shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing Shrubs, 1 gallon, and related incidental work.
- 4.2 The contract unit price paid for Shrubs, 5 gallon shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing Shrubs, 5 gallon, and related incidental work.
- 4.3 The contract unit price paid for Mulch shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing Mulch, and related incidental work.

END OF DOCUMENT 32 93 00

SECTION 33 1000

WATER SYSTEM

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Site water distribution system for domestic and fire protection services up to 5 feet of any on-site building being served.
- B. Domestic water and fire protection water transmission or distribution system within a roadway or street right-of-way.
- 1.02 RELATED SECTIONS
- A. Section 31 2100, Utility Trenching and Backfill
- **1.03** RELATED DOCUMENTS

A. ASME

- 1. ASME A112.1.2: Air Gaps in Plumbing Systems (for Plumbing Fixtures and Water Connect Receptors
- 2. ASME B1.20.1: Pipe Threads, General Purpose, Inch
- 3. ASME B16.1: Gray Iron Pipe Flanges and Flanged Fittings: Classes 25, 125, and 250
- 4. ASME B16.18: Cast Copper Alloy Solder Joint Pressure Fittings
- 5. ASME B16.22: Wrought Copper and Copper Alloy Solder Joint Pressure fittings
- 6. ASME B16.26: Cast Copper Alloy Fittings for Flared Copper Tubes

B. ASTM

- 1. ASTM A536: Standard Specification for Ductile Iron Castings
- 2. ASTM A674: Standard Practice for Polyethylene Encasement for Ductile Iron Pipe for Water or Other Liquids
- 3. ASTM B61: Standard Specification for Steam or Valve Bronze Castings
- 4. ASTM B62: Standard Specification for Composition Bronze or Ounce Metal Castings
- 5. ASTM B88: Standard Specification for Seamless Copper Water Tube
- 6. ASTM C94: Standard Specification for Ready-Mixed Concrete
- 7. ASTM D1785: Standard Specification for Poly Vinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and 120
- 8. ASTM D2564: Standard Specification for Solvent Cements for Poly Vinyl Chloride (PVC) Plastic Piping Systems
- 9. ASTM F1056: Standard Specification for Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings

C. AWWA

- 1. C104: Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
- 2. C105: Polyethylene Encasement for Ductile-Iron Pipe Systems
- 3. C110: Ductile-Iron and Gray-Iron Fittings
- 4. C111: Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
- 5. C115: Flanged Ductile-Iron Pipe with Ductile-Iron or Gray-Iron Threaded Flanges
- 6. C116: Protective Fusion-Bonded Epoxy Coatings for the Interior & Exterior Surfaces for Ductile-Iron and Gray-Iron Fittings
- 7. C150: Thickness Design of Ductile-Iron Pipe
- 8. C151: Ductile-Iron Pipe, Centrifugally Cast
- 9. C153: Ductile-Iron Compact Fittings
- 10. C200: Steel Water Pipe 6 inch and larger

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- 11. C203: Coal-Tar Protective Coatings and Linings for Steel Water Pipe
- 12. C205: Cement-Mortar Protective Lining and Coating for Steel Water Pipe 4 inch and Larger-Shop Applied
- 13. C207: Steel Pipe Flanges for Waterworks Service-Sizes 4 inch through 144 inch
- 14. C208: Dimensions for Fabricated Steel Water Pipe Fittings
- 15. C209: Cold Applied Tape Coatings for Steel Water Pipe, Special Sections, Connections, and Fittings
- 16. C210: Liquid-Epoxy Coatings and Linings for Steel Water Pipe and Fittings
- 17. C213: Fusion-Bonded Epoxy Coatings and Linings for Steel Water Pipe and Fittings
- 18. C214: Tape Coatings for Steel Water Pipelines
- 19. C218: Liquid Coatings for Aboveground Steel Water Pipe and Fittings
- 20. C219: Bolted, Sleeve-type Couplings for Plain-End Pipe
- 21. C500: Metal-Seated Gate Valves for Water Supply Service
- 22. C502: Dry-Barrel Fire Hydrants
- 23. C503: Wet Barrel Fire Hydrants
- 24. C504: Rubber Seated Butterfly Valves.
- 25. C507: Ball Valves, 6 inch through 60 inch.
- 26. C508: Swing-check Valves for Waterworks Service, 2 inch through 48 inch NPS.
- 27. C509: Resilient-Seated Gate Valves for Water Supply Service
- 28. C510: Double Check Valve Backflow Prevention Assembly
- 29. C511: Reduced-Pressure Principle Backflow Prevention Assembly
- 30. C512: Air-Release, Air/Vacuum, and Combination Air Valves for Water and Wastewater Service
- 31. C550: Protective Interior Coatings for Valves and Hydrants
- 32. C600: Installation of Ductile-Iron Water Mains and Their Appurtenances
- 33. C606: Grooved and Shouldered Joints
- 34. C651: Disinfecting Water Mains
- 35. C800: Underground Service Line Valves and Fittings
- 36. C900: Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 inch through 60 inch for Water Transmission and Distribution
- 37. C901: Polyethylene (PE) Pressure Pipe and Tubing, ½ inch through 3 inch for Water Service
- 38. C905: Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 inch through 48 inch for Water Transmission and Distribution
- 39. C906: Polyethylene (PE) Pressure Pipe and Fittings, 4 inch through 65 inch, for Waterworks
- 40. M11: Steel Pipe A Guide for Design and Installation
- 41. M23: PVC Pipe Design and Installation
- 42. M41: Ductile-Iron Pipe and Fittings
- D. Factory Mutual Insurance Company (FM)
 - 1. FM 1530: Fire Department Connections
- E. National Fire Protection Association (NFPA)
- 1. NFPA 24: Installation of Private Fire Service Mains and Their Appurtenances
- 2. NFPA 70: National Electric Code
- 3. NFPA 1963: Fire Hose Connection
- F. National Sanitation Foundation (NSF)
- 1. NSF 61: Drinking Water System Components-Health Effects
- G. Underwriters Laboratory(UL)
 - 1. UL 262: Safety Gate Valves for Fire-Protection Service
 - 2. UL 405: Safety Fire Department Connection Devices
 - 3. UL 789: Indicator Posts for Fire-Protection Service

- 1.04 DEFINITIONS
 - A. AASHTO: American Association of State Highway and Transportation Officials
 - B. ASTM: American Society for Testing Materials
 - C. AWWA: American Waterworks Association
 - D. DI: Ductile iron
 - E. DIP: Ductile iron pipe
 - F. FM: Factory Mutual
 - G. NFPA: National Fire Protection Association
 - H. NSF: National Sanitation Foundation
- I. PCC: Portland cement concrete
- J. PE: Polyethylene
- K. PVC: Polyvinyl Chloride
- L. UL: Underwriters Laboratory
- **1.05** SYSTEM PERFORMANCE REQUIREMENTS
- A. External Load: Earth load indicated by depth of cover plus AASHTO H20 live load unless indicated otherwise.
- 1.06 SUBMITTALS
- A. Follow submittal procedure outlined in Section 01 1000, Supplemental General Requirements.
- B. Product Data: Manufacturer's literature and data, including, where applicable, sizes, pressure rating, rated capacity, listing/approval stamps, labels, or other marking on equipment made to the specified standards for materials, and settings of selected models, for the following:
- 1. Piping materials and fittings
- 2. Thrust block concrete mix
- 3. Tapping sleeves and tapping valves
- 4. Identification materials and devices
- C. Shop drawings: Include plans, elevations, details and attachments.
 - 1. Precast and cast in-place vaults and covers
 - 2. Wiring diagrams for alarm devices
- D. Field test reports: Indicate and interpret test results for compliance with the Project requirements.

1.07 QUALITY ASSURANCE

- A. Comply with requirements of utility supplying water. Do not operate existing valves or tap existing piping without written permission and/or presence of utility company representative.
- B. Comply with the following requirements and standards:
- 1. NSF 61: "Drinking Water System Components-Health Effects" for materials for potable water.
- 2. NFPA 24: "Installation of Private Fire Service Mains and Their Appurtenances" for materials, installations, tests, flushing, and valve and hydrant supervision.
- 3. NFPA 70: "National Electric Code" for electrical connections between wiring and electrically operated devices.
- C. Provide listing/approval stamp, label, or other marking on piping and specialties made to a specified standard.

1.08 MATERIAL DELIVERY, STORAGE AND HANDLING

- A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:
- 1. Ensure that valves are dry and internally protected against rust and corrosion.
- 2. Protect valves against damage to threaded ends and flange faces.
- 3. Set valves in best position for handling. Set valves closed to prevent rattling.
- B. Deliver piping with factory-applied end-caps. Maintain end-caps through shipping, storage and handling to prevent pipe end damage and to prevent entrance of dirt, debris and moisture.
- C. Handling: Use slings to handle valves and fire hydrants whose size requires handling by crane or lift. Rig valves to avoid damage to exposed parts. Do not use handwheels or stems as lifting or rigging points.
- D. During Storage: Use precautions for valves, including fire hydrants according to the following.
- 1. Do not remove end protectors, unless necessary for inspection, then reinstall for storage.
- 2. Protection from Weather: Store indoors and maintain temperature higher than ambient dew-point temperature. Store indoors and maintain temperature higher than ambient dew point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.
- E. Do not store plastic pipe and fittings in direct sunlight.
- F. Protect pipe, fittings, flanges, seals and specialties from moisture, dirt and damage.
- G. Protect linings and coatings from damage.
- H. Handle precast boxes, vaults and other precast structures according to manufacturer's written instructions.
- I. Protect imported bedding and backfill material from contamination by other materials.
- 1.09 COORDINATION
 - A. Coordinate connection to existing water mains with water utility supplying water.
 - B. Coordinate piping materials, sizes, entry locations, and pressure requirements with building domestic water distribution piping and fire protection piping.

PART 2 - PRODUCTS

- 2.01 PVC PIPE: SIZES 1/8 INCH THROUGH 3 INCH
 - A. Pipe and Fittings: ASTM D1785, Schedule 40.
 - B. Joints: Restrain with solvent cement. Do not use threaded pipe.
 - C. Solvent Cement: ASTM D2564.
- 2.02 THRUST BLOCKS
- A. Use concrete conforming to ASTM C94 having a minimum compressive strength of 2,500 psi at 28 days; or use concrete of a mix not leaner than one part cement, 2 ½ parts sand, and 5 parts gravel, having the same minimum compressive strength.
- B. Provide thrust blocks or mechanical pipe restraints at all fittings and changes in angle, alignment or elevation.
- C. Where depth or location of existing structures prohibit the use of standard thrust blocks, gravity blocks may be used.

- 2.03 TAPPING SLEEVES AND TAPPING VALVES
- A. Tapping sleeves shall be epoxy coated and furnished with stainless steel washers, nuts and bolts. Mueller H-615 and H-619, Ford, or approved equal.
- 2.04 IDENTIFICATION MATERIALS AND DEVICES
- A. Warning Tape: Provide warner tape consisting of metallic foil bonded to solid blue plastic film not less than 3 inches wide. Film shall be inert polyethylene plastic. Film and foil shall each not be less than 1 mil thick. The tape continuously shall have printed black-letter, not less than ³/₄ inch high, message reading "CAUTION: WATER MAIN BELOW".
- B. Tracer Wire for Nonmetallic Piping: Provide 12 guage, coated copper or aluminum wire not less than 0.10 inch in diameter, with blue THW, THWN, or THHN rated insulation, in sufficient length to be continuous over each separate run of nonmetallic pipe. Wire shall be tied in at all valves.

PART 3 - EXECUTION

- 3.01 PIPE INSTALLATION
 - A. Pipe Depth and Trench Configuration: Conform to elevations, profiles and typical trench section(s) shown on the Plans.
 - B. Excavation, Bedding, Backfill, and Compaction: Section 31 2100 Utility Trenching and Backfill.
 - C. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with manufacturer's recommendations.
 - D. Pipe laying and jointing:
 - 1. Provide proper facilities for lowering sections of pipe into trenches.
 - 2. Do not drop or dump pipe, fittings, valves, or any other water line material into trenches.
 - 3. Cut pipe accurately to length established at the site and work into place without springing or forcing. Replace any pipe or fitting that does not allow sufficient space for proper installation of jointing material.
 - 4. Blocking or wedging between bells and spigots will not be permitted. Lay bell-and-spigot pipe with the bell end pointing in the direction of laying.
 - 5. Grade the pipeline in straight lines; avoid the formation of dips and low points.
 - 6. Support pipe at proper elevation and grade.
 - 7. Provide secure firm, uniform support. Wood support blocking will not be permitted.
 - 8. Lay pipe so that the full length of each section of pipe and each fitting rests solidly on the pipe bedding; excavate recesses to accommodate bells, joints, and couplings.
 - 9. Provide anchors and supports where indicated and where necessary for fastening work into place.
 - 10. Make proper provision for expansion and contraction of pipelines.
 - 11. Keep trenches free of water until joints have been properly made.
 - 12. Do not lay pipe when conditions of trench or weather prevent proper installation.
 - 13. All fittings shall be blocked with appropriately sized thrust blocks as shown on the Plans.
 - E. Installation of Tracer Wire:
 - 1. Install a continuous length of tracer wire for the full length of each run of nonmetallic pipe.
 - 2. Attach wire to top of pipe in such manner that it will not be displaced during construction operations.
 - 3. Form a mechanically and electrically continuous line throughout the pipeline, extending to the nearest valve or other pipeline appurtenance. Extend the wire up the outside of the valve box/riser and cut a hole that is 8 inches from the top, extend a 12 inch wire lead to the inside of the box. At other pipeline appurtenances, terminate the 12 inch wire lead inside the enclosure.

- 4. Splice wire with a splicing device consisting of and electro-tin plated seamless copper sleeve conductor. Install as recommended by the manufacturer. Wrap splices and damaged insulation with electrician's tape.
- F. Installation of Warning Tape
 - 1. Install tape approximately 1 foot above and along the centerline of the pipe.
 - 2. Where tape is not continuous, lap tape ends a minimum of 2 feet.
- G. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. If necessary, use shorter than the standard lengths of pipe to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.
- H. Connections to Existing Lines:
 - 1. Make connections to existing water lines after approval is obtained and with a minimum interruption of service on the existing line.
- 2. Make connections to existing lines under pressure in accordance with the recommended procedures of a manufacturer of pipe of which the line being tapped is made.
- I. Closure: Close open ends of pipes and appurtenance openings at the end of each day's work or when work is not in progress.
- 3.02 INSTALLATION OF POLYVINYL CHLORIDE PIPING
 - A. Comply with the recommendations for pipe installation, joint assembly and appurtenance installation in AWWA Manual M23.
 - B. Comply with the applicable requirements of AWWA C600 for joint assembly, and with the recommendations of Appendix A to AWWA C111.
 - C. Jointing:
 - 1. Provide push-on joints with the elastomeric gaskets specified for this type joint, using either elastomeric-gasket bell-end pipe or elastomeric-gasket couplings.
 - 2. For pipe-to-pipe push-on joint connections, use only pipe with push-on joint ends having factorymade bevel.
 - 3. For push-on joint connections to metal fittings, valves, and other accessories, cut spigot end of pipe off square and re-bevel pipe end to a bevel approximately the same as that on ductile-iron pipe used for the same type of joint.
 - 4. Use an approved lubricant recommended by the pipe manufacturer for push-on joints.
 - 5. Assemble push-on joints for connection to fittings, valves, and other accessories in accordance with the applicable requirements of AWWA C600 for joint assembly.
 - 6. Make compression-type joints/mechanical-joints with the gaskets, glands, bolts, nuts, and internal stiffeners previously specified for this type joint. Cut off spigot end of pipe for compression-type joint or mechanical-joint connections and do not re-bevel.
 - 7. Assemble joints made with sleeve-type mechanical couplings in accordance with the recommendations of the coupling manufacturer using internal stiffeners as previously specified for compression-type joints.
 - D. Pipe Anchorage:
 - 1. Provide concrete thrust blocks or restrained joints for pipe anchorage, except where metal harness is indicated on the Plans.
- 3.03 INSTALLATION OF VALVES
 - A. Gate Valves

- 1. Install gate valves conforming to AWWA C500 and UL 262 in accordance with the requirements of AWWA C600 for valve-and-fitting installation and with the recommendations of the Appendix (Installation, operation, and Maintenance of Gate Valves) to AWWA C509.
- 2. Install gate valves conforming to AWWA C509 in accordance with the requirements of AWWA C600 for valve-and-fitting installation and with the recommendations of the Appendix (Installation, Operation, and Maintenance of Gate Valves) to AWWA C509.
- 3. Install gate valves on PVC water mains in addition in accordance with the recommendations for appurtenance installation in AWWA Manual M23.
- B. Butterfly Valves: Install butterfly valves in accordance with the applicable requirements of Appendix A of AWWA C504.
- C. Check Valves: Install check valves in accordance with the applicable requirements of AWWA C600 for valve-and-fitting installation, except as otherwise indicated.
- D. Joints:
- 1. Valves on DI, PE and PVC Pipe: Mechanical joint valves for buried locations. Flanged-end valves for installation in vaults/pits.
- 2. Valves on Steel Pipe: As indicated for buried locations. Flanged-end valves for installation in vaults/pits.
- 3.04 INSTALLATION OF VALVE AND METER BOXES
- A. Boxes shall be centered over the appurtenance so as not to transmit shock or stress. Covers shall be set flush with the surface of the finished pavement, or as shown on the Plans. Backfill shall be placed around the boxes and compacted to the specified level in a manner that will not damage or displace the box from proper alignment or grade. Misaligned boxed shall be excavated, plumbed, and backfilled at no additional cost to the Owner.
- 3.05 CONNECTION TO EXISTING
 - A. Contractor shall submit a work plan delineating the work sequence and duration of each task.
 - B. The Contractor to submit a contingency plan in case work extends beyond the allowable shutdown duration
 - C. Contractor to notify Owner 48 hours prior to shutdown.
 - D. Prior to shutdown the Contractor shall have the following:
 - 1. Approved submittals for the work to be done
 - 2. Approved work plan
 - 3. Approved contingency plan
 - 4. The material, tools and equipment necessary to do the work, including pumps, generator, lighting, etc.
 - E. No work shall be done within two weeks from a wet weather event.
 - F. Contractor to check the weather (NOAA website) and plan work during dry weather period.
- **3.06** HYDROSTATIC PRESSURE AND LEAKAGE TEST
 - A. General:
 - 1. Provide all necessary materials and equipment, including water.
 - 2. Backfill all trenches sufficient to hold pipe firmly in position.
 - 3. Allow time for thrust blocks to cure prior to testing.
 - 4. Flush all pipes prior to testing to remove all foreign material.
 - 5. Perform pressure and leakage test concurrently.
 - 6. Apply test pressure by means of a pump connected to the pipe.
 - 7. Base test pressure on the elevation of the lowest point in the line.

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- 8. Fill each closed valve section or bulk-headed section slowly. Expel air from section being tested by means of permanent air vents installed at high points or by means of temporary corporation cocks installed at such points. Remove and plug the temporary corporation cocks at the conclusion of the test.
- 9. Ensure the release of air from the line during filling, and prevent collapse due to vacuum when dewatering the line.
- 10. Allow the system to stabilize at the test pressure before conducting the leakage test.
- 11. Do not operate valves in either the opening or closing direction at differential pressures above the valves rated pressure.
- 12. Maintain test pressure as specified for type of pipe being tested.
- 13. Pressure Test: Examine any exposed pipe, fittings, valves, hydrants and joints during the test, if no leaks are observed the section of line has passed the pressure test. If leaks are observed, repair any damaged or defective pipe, fittings, valves, or hydrants, and repeat the pressure test.
- 14. Leakage Test: Perform as specified hereafter for the type of pipe being installed.
- B. Preparation for Test
 - 1. Vents shall be provided at the high points of the system and drains provided where means of venting or draining do not exist.
 - 2. Remove or block off, all relief valves, rupture discs, alarms, control instruments, etc. that shall not be subjected to the test pressure.
 - 3. All discs, balls, or pistons from check valves shall be removed if they interfere with filling of the system. Open all valves between inlet and outlet of the section to be tested.
 - 4. Connect pump and provide temporary closures for all of the external openings in the system. Use caution to insure that the closures are properly designed and strong enough to withstand the test pressure.
 - 5. A joint previously tested in accordance with this specification may be covered or insulated.
 - 6. Expansion joints shall be provided with temporary restraint for additional pressure under test or shall be isolated from the test.
- 7. Flanged joints, where blanks are inserted to isolate equipment during the test, need not be tested.
- C. PVC Pipe Leakage Test: Perform in accordance with AWWA M23. Selected requirements of AWWA M23 are repeated as follows:
 - 1. The pipe shall be subjected to a hydrostatic pressure of 50 percent above the normal operating pressure, or 150 psi, whichever is greater. In no case shall the pressure be allowed to exceed the design pressure for pipe, appurtenances, or thrust restraints.
 - 2. Maintain the test pressure, +/- 5 psi, for a minimum of four hours.
 - 3. No piping will be accepted if the leakage is greater than that determined by the following formula:

 $L = (N \times D \times P1/2)/7,400$

L = Allowable leakage, gallons per hour.

N = Number of joints in the length of the pipeline tested.

D = Nominal diameter of pipe, inches.

P = Average test pressure during the leakage test, pounds per square inch (gauge).

3.07 CLEANING

A. At the conclusion of the work, thoroughly clean all pipelines by flushing with water or other means to remove all dirt, stones, pieces of wood, or other material which may have entered the pipes during the construction period. Debris cleaned from the lines shall be removed from the low end of the pipeline. If after this cleaning, obstructions remain, they shall be removed. After the pipelines are cleaned and if the groundwater level is above the pipe or following a heavy rain, the Owner will examine the pipes for leaks. If any further defective pipes or joints are discovered, the Contractor

shall repair them. Finished paving shall not be installed prior to completion of all cleaning and testing.

- 3.08 DISINFECTION OF PIPELINES
 - A. After completion of the hydrostatic test, the mains shall be thoroughly flushed with a minimum pipe velocity of 2.5 fps and chlorinated in accordance with the latest revision of AWWA 651, Standards of Disinfecting Water Mains. Any one of the methods therein described may be used, with the additional requirement of 50 ppm chlorination minimum initial application. At the end of the contact period, the mains shall again be flushed, and bacteriological samples taken.
 - B. If necessary, the Contractor shall provide, at his expense, outlets from which to take the samples. The location of the chlorination and sampling points will be determined by the Owner in the field. Taps for chlorination and sampling shall be installed. The Contractor shall uncover and backfill the taps as required.
 - C. Disinfection of tie-ins shall be performed by the Contractor by swabbing with chlorine or by other approved methods. Following a tie-in, the area affected by the tie-in shall be thoroughly flushed and bacteriological samples will be taken as deemed necessary.
 - D. All treated water flushed from the lines shall be dechlorinated and disposed of by discharging to the locations identified in the Plans, or by other approved means. No discharge of chlorinated water to any storm sewer or natural water course will be allowed, unless properly dechlorinated.
 - E. The Contractor shall rechlorinate and retest any lines that do not meet the requirements of the above testing. The line shall not be placed in service until the requirements of the State Public Health Department are met.

END OF SECTION

SECTION 33 3000

SANITARY SEWER SYSTEM

PART 1 - GENERAL

- 1.01 SECTION INCLUDES
- A. Sanitary gravity sewers and force mains up to five feet from any on-site building
- 1.02 RELATED SECTIONS
 - A. Section 31 2100, Utility Trenching and Backfill
 - B. Section 32 1318, Cement and Concrete for Exterior Improvements
- 1.03 RELATED DOCUMENTS

A. AASHTO

- 1. M199: Standard Specification for Precast Reinforced Concrete Manhole Sections
- 2. M252: Standard Specification for Corrugated Polyethylene Drainage Pipe
- 3. M294: Standard Specification for Corrugated Polyethylene Pipe, 12 to 60 inch Diameter

B. ASTM

- 1. A615: Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- 2. ASTM A674: Standard Practice for Polyethylene Encasement for Ductile Iron Pipe for Water or Other Liquids
- 3. C143: Standard Test Method for Slump of Hydraulic-Cement Concrete
- 4. C443: Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
- 5. C478: Standard Specification for Circular Precast Reinforced Concrete Manhole Sections
- 6. C923: Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals
- 7. C1173: Standard Specification for Flexible Transition Couplings for Underground Piping Systems
- 8. C1244: Standard Test Method for Concrete Sewer Manholes by the Negative Air Pressure (Vacuum) Test Prior to Backfill
- 9. D2321: Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity Flow Applications
- 10. D3034: Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
- 11. D4101: Standard Specification for Propylene Injection and Extrusion Materials
- 12. F477: Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
- 13. F679: Standard Specification for Poly(Vinyl Chloride) (PVC) Large Diameter Plastic Gravity Sewer Pipe and Fittings
- 14. ASTM F1056: Standard Specification for Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings
- 15. F1336: Standard Specification for Poly(Vinyl Chloride) (PVC) Gasket Sewer Fittings

C. AWWA

- 1. C104: Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
- 2. C105: Polyethylene Encasement for Ductile-Iron Pipe Systems
- 3. C110: Ductile-Iron and Gray-Iron Fittings
- 4. C111: Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
- 5. C115: Flanged Ductile-Iron Pipe With Ductile-Iron or Gray-Iron Threaded Flanges
- 6. C116: Protective Fusion-Bonded Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings
- 7. C150: Thickness design of Ductile Iron Pipe

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- 8. C151: Ductile-Iron Pipe, Centrifugally Cast
- 9. C153: Ductile-Iron Compact Fittings
- 10. C219: Bolted, Sleeve-type Couplings for Plain-End Pipe
- 11. C512: Air Release, Air/Vacuum, and Combination Air Valves for Water and Wastewater Service
- 12. C600: Installation of Ductile-Iron Water Mains and Their Appurtenances.
- 13. C606: Grooved and Shouldered Joints
- 14. C900: Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 60 In. for Water Transmission and Distribution
- 15. C905: Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 In. Through 48 In. for Water Transmission and Distribution
- 16. C906: Polyethylene (PE) Pressure Pipe and Fittings, 4 In. Through 65 In. for Waterworks
- 17. M23: PVC Pipe Design and Installation
- 18. M41: Ductile Iron Pipe and Fittings
- D. Caltrans Standard Specifications, 2015
 - 1. Section 51, Concrete Structures
 - 2. Section 65, Concrete Pipe
- 3. Section 75 Miscellaneous Metal
- 4. Section 90, Concrete
- E. Federal Specification
- 1. SS-S-00210 (GSA-FSS)
- 1.04 DEFINITIONS
- A. AASHTO: American Association of State Highway and Transportation Officials
- B. ASTM: American Society for Testing Materials
- C. AWWA: American Water Works Association
- D. HDPE: High-density polyethylene
- E. PE: Polyethylene
- F. DIP: Ductile iron pipe
- G. PVC: Polyvinyl Chloride
- H. RCP: Reinforced concrete pipe
- I. NPS: Nominal pipe size
- 1.05 SUBMITTALS
- A. Follow submittal procedure outlined in Section 01 1000, Supplemental General Requirements.
- B. Product data for the following:
- 1. Piping materials and fittings
- 2. Special pipe couplings
- 3. Joint sealants
- 4. Cleanout plugs or caps
- 5. Sewage air relief valves
- C. Shop drawings: Include plans, elevations, details and attachments for the following:
 - 1. Precast concrete manholes, frames and covers
 - 2. Precast concrete clean out boxes and box covers
 - 3. Force main piping access openings
- D. Design Mix Reports and Calculations: For each class of cast in place concrete

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- E. Field Test Reports: Indicate test results for compliance with performance.
- 1.06 DELIVERY, STORAGE AND HANDLING
- A. Delivery and Storage
 - 1. Piping: Inspect materials delivered to site for damage; store with minimum of handling. Store materials on site in enclosures or under protective coverings. Store plastic piping and jointing materials and rubber gaskets under cover out of direct sunlight. Do not store materials directly on the ground. Keep inside of pipes and fittings free of dirt and debris.
 - 2. Metal Items: Check upon arrival; identify and segregate as to types, functions, and sizes. Store off the ground in a manner affording easy accessibility and not causing excessive rusting or coating with grease or other objectionable materials.
- B. Handling
 - 1. Handle pipe, fittings, and other accessories in such manner as to ensure delivery to the trench in sound undamaged condition. When handling lined pipe, take special care not to damage linings of pipe and fittings; if lining is damaged, make satisfactory repairs. Carry, do not drag, pipe to trench.
 - 2. Handle precast concrete pipe, manholes and other precast structures according to manufacturer's written instructions.
 - 3. Protect imported bedding and backfill material from contamination by other materials.

PART 2 - PRODUCTS

- 2.01 PVC PIPE
 - A. Pipe:
 - 1. 4 inch through 15 inch: ASTM D3034, SDR 26
 - B. Bell and spigot joints
 - C. Fittings:
 - 1. 4 inch through 27 inch: ASTM F1336
 - D. Joint Gasket: Elastomeric seal, ASTM F477
- E. Special Pipe Coupling: ASTM C1173. Rubber or elastomeric sleeve and band assembly fabricated to match outside diameters of pipes to be joined.

2.02 GRAVITY PIPE CLEANOUTS

- A. Piping: Same as sanitary sewer line if possible
- B. Top Cap: Threaded and of same material as piping if possible
- C. Box Size: As required to provide access and allow easy removal and reinstallation of cap
- D. Box Types:
- 1. Non-Traffic Areas: Portland cement concrete box and box cover, light duty
- 2. Traffic Areas: Portland cement concrete box and box cover or steel or cast iron cover, heavy duty, both box and cover to be rated for AASHTO H20 loading
- E. Box Cover Markings: "SANITARY SEWER" unless otherwise specified
- F. Available Manufacturers: Subject to compliance with requirements, box manufacturers offering products that may be incorporated into the Project include, but are not limited to the following:
 - 1. Associated Concrete Products, Inc.
 - 2. Brooks Products Inc.

- 3. Christy Concrete Products, Inc., or approved equal
- 2.03 JOINT SEALANT FOR STRUCTURES AND MANHOLES
- A. Mortar: Caltrans Standard Specification Section 51-1.02F
 - 1. Use to seal around pipes at connections to structures and manholes. Also use to seal joints between precast sections of structures and manholes.
- B. Gaskets: Preformed flexible rubber or plastic gasket
 - 1. Rubber Gaskets: ASTM C443
 - 2. Plastic Gaskets: Federal Specification SS-S-00210 (GSA-FSS), Type I, Rope Form; or alternate standard which may exist. Acceptable material is "Ram-Nek," as manufactured by the Henry Company, or equal

2.04 PIPE TO STRUCTURE CONNECTOR/SEAL

- A. A flexible pipe to manhole connector shall be used for all pipe penetrations to pre-cast and/or castin-place concrete structures.
 - 1. The seal shall provide a flexible, positive, watertight connection between pipe and concrete wastewater structures. The connector shall assure that a seal is made between (1) the connector and the structure wall, and (2) between the connector and the pipe. The seal between the connector and the manhole wall shall be made by casting the connector integrally with the structure wall during the manufacturing process in such a manner that it will not pull out during coupling. The seal between connector and pipe will be made by way of a stainless steel take down band compressing the gasket against the outside diameter of the pipe.
 - 2. The connector shall be molded from materials whose physical/chemical properties meet or exceed the physical/chemical resistant properties outlined in ASTM C923. The connector and stainless steel hardware shall meet or exceed the performance requirements proscribed in ASTM C923.
 - 3. The connector shall be of size specifically designed for the pipe material being used and shall be installed in accordance with recommendations of the manufacturer.
 - 4. Connectors shall be Z-LOK or G3 connectors manufactured by A-LOK Products Inc. or approved equivalent.

PART 3 - EXECUTION

- 3.01 GRAVITY PIPE INSTALLATION
 - A. General: Install pipe, fittings, and appurtenances utilizing best practices, manufacturer's instructions, and in accordance with Section 6 and 7 of ASTM D 2321 for plastic pipe, Caltrans Standard Specification Section 65-2.03 for reinforced concrete pipe and chapter 11.3.3 of AWWA M41 for ductile iron pipe.
 - B. Pipe Depth and Trench Configuration: Conform to typical trench section(s) indicated.
 - C. Excavation, Bedding, Backfill, and Compaction: Section 31 2100, Utility Trenching and Backfill.
 - D. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with the manufacturer's recommendations.
 - E. Laying: Before lowering pipe into the trench, remove all stakes, debris, loose rock and other hard materials from the bottom of the trench. Lay accurately in conformance with lines and grades indicated. Start laying the pipeline at the low end and proceed upstream. Lay bell and spigot pipe with the bell end facing upstream. Lay pipe on a bed prepared by handwork, dug true to grade. Furnish firm bearing for pipe throughout its entire length with bell holes provided at the ends of each pipe length of sufficient size to permit making up the particular type of joint being used. Adjust pipe to line and grade by scraping away or filling and tamping material under the body of the pipe

for the entire pipe length and not by blocking or wedging. After final positioning, hold pipe in place in trench with backfill material placed equally on both sides of the pipe at as many locations as required to hold the pipe section in place.

- F. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. Use shorter lengths of pipe than the standard length if necessary to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.
- G. Closure: Close open ends of pipes and appurtenance at the end of each day's work or when work is not in progress.

3.02 INSTALLATION OF POLYVINYL CHLORIDE PIPING

- A. Comply with the recommendations for pipe installation, joint assembly and appurtenance installation in AWWA M23.
- B. Comply with the applicable requirements of AWWA C600 for joint assembly, and with the recommendations of Appendix A to AWWA C111.
- C. Jointing:
 - 1. Provide push-on joints with the elastomeric gaskets specified for this type joint, using either elastomeric-gasket bell-end pipe or elastomeric-gasket couplings.
 - 2. For pipe-to-pipe push-on joint connections, use only pipe with push-on joint ends having factorymade bevel.
 - 3. For push-on joint connections to metal fittings, valves, and other accessories, cut spigot end of pipe off square and re-bevel pipe end to a bevel approximately the same as that on ductile-iron pipe used for the same type of joint.
 - 4. Use an approved lubricant recommended by the pipe manufacturer for push-on joints.
 - 5. Assemble push-on joints for connection to fittings, valves, and other accessories in accordance with the applicable requirements of AWWA C600 for joint assembly.
 - 6. Make compression-type joints/mechanical-joints with the gaskets, glands, bolts, nuts, and internal stiffeners previously specified for this type joint. Cut off spigot end of pipe for compression-type joint or mechanical-joint connections and do not re-bevel.
 - 7. Assemble joints made with sleeve-type mechanical couplings in accordance with the recommendations of the coupling manufacturer using internal stiffeners as previously specified for compression-type joints.
- D. Pipe Anchorage:
 - 1. Provide concrete thrust blocks or restrained joints for pipe anchorage, except where metal harness is indicated on the Plans.
- 3.03 GRAVITY PIPELINE AIR TESTING AND FLUSHING
 - A. All new sections of sanitary sewer shall be tested using the following procedures:
 - 1. Test is conducted between two consecutive manholes, or as directed by the Project Manager.
 - 2. The test section of the sewer shall be plugged at each end. One of the plugs used at the manhole shall be tapped and equipped for the air inlet connection for filling the line from an air compressor.
 - 3. All service laterals, stubs, and fittings into the sewer test section shall be properly capped or plugged and carefully braced against the internal pressure to prevent air leakage by slippage and blowout.
 - 4. Connect air hose to tapped plug selected for the air inlet. Connect the other end of the air hose to the portable air control equipment, which consists of valves and pressure gauges used to control the air entry rate into the sewer test section, and to monitor the air pressure in the pipeline. More specifically, the air control equipment includes a shut-off valve, pressure regulating valve, pressure reduction valve, and a monitoring pressure gauge having a pressure range from 0-5 psi. The gauge shall have minimum divisions of 0.10 psi and an accuracy of 0.40 psi.

- 5. Connect another air hose between the air compressor (or other source of compressed air) and the air control equipment. This completes the test equipment set-up. Test operations may commence.
- 6. Supply air to the test section slowly, filling the pipeline until a constant pressure of 3.5 psig is maintained. The air pressure must be regulated to prevent the pressure inside the pipe from exceeding 5.0 psig.
- 7. When constant pressure of 3.5 psig is reached, throttle the air supply to maintain the internal pressure above 3.0 psig for at least 5 minutes. This time permits the temperature of the entering air to equalize with the temperature of the pipe wall. During this stabilization period, it is advisable to check all capped and plugged fittings with a soap solution to detect any leakage at these connections. If leakage is detected at any cap plug, release the pressure in the line and tighten all leaky caps and plugs. Start the test operation again by supplying air. When it is necessary to bleed off the air to tighten or repair a faulty plug, a new 5-minute interval must be allowed after the pipeline has been refilled.
- 8. After the stabilization period, adjust the air pressure to 3.5 psig and shut-off or disconnect the air supply. Observe the gauge until the air pressure reached 3.0 psig. At 3.0 psig, commence timing with a stopwatch until the pressure drops to 2.5 psig, at which time the stop watch is stopped. The time required, as shown on the stopwatch, for a pressure loss of 0.5 psig is used to compute the air loss.
- 9. If the time, in minutes and seconds, for the air pressure drop from 3.0 to 2.5 psi is greater than that shown in the following table for the designated pipe size, the section undergoing test shall have passed and shall be presumed to be free of defects. The test may be discontinued at any time.
- 10. If the time, in minutes and seconds, for the 0.5 psig drop is less than that shown in the following table for the designated pipe size, the section of the pipe shall not have passed the test; therefore, adequate repairs must be made and the line retested.

Pipe Size	Time	
(in inches)	Minutes	Seconds
4	2	32
6	3	50
8	5	6
10	6	22
12	7	39
14	8	56
15	9	35
16	10	12
18	11	34
20	12	30

Requirements for Air Testing

- 11. For 8 inch and smaller pipe, only: if, during the 5 minute saturation period, pressure drops less than 0.5 psig after the initial pressurization and air is not added, the pipe section undergoing test shall have passed.
- 12. Multi-pipe sizes: when the sewer line undergoing test is 8 inch or larger diameter pipe and includes 4 inch or 6 inch laterals, the figures in the table for uniform sewer main sizes will not give reliable or accurate criteria for the test. Where multi-pipe sizes are to undergo the air test, the Project Manager can compute the "average" size in inches which is then multiplied by 38.2 seconds. The results will give the minimum time in seconds acceptable for a pressure drop of 0.5 psig for the "averaged" diameter pipe.
- 13. Adjustment Required for Groundwater:
- a. An air pressure correction is required when the ground water table is above the sewer line being tested. Under this condition, the air test pressure must be increased .433 psi for each foot the ground water level is above the invert of the pipe.

- b. Where ground water is encountered or is anticipated to be above the sewer pipe before the air testing will be conducted, the following procedure shall be implemented at the time the sewer main and manholes are constructed.
 - 1. Install a ½ inch diameter pipe nipple (threaded one or both ends, approximately 10 inch long) through the manhole wall directly on top of one of the sewer pipes entering the manhole with threaded end of nipple extending inside the manhole.
 - 2. Seal pipe nipple with a threaded $\frac{1}{2}$ inch cap.
 - 3. Immediately before air testing, determine the ground water level by removing the threaded cap from the nipple, blowing air through the pipe nipple to remove any obstruction, and then connecting a clear plastic tube to the pipe nipple.
 - 4. Hold plastic tube vertically permitting water to rise in it to the groundwater level.
 - 5. After water level has stabilized in plastic tube, measure vertical height of water, in feet, above invert of sewer pipe.
 - 6. Determine air pressure correction, which must be added to the 3.0 psig normal starting pressure of test, by dividing the vertical height in feet by 2.31. The result gives the air pressure correction in pounds per square inch to be added.
- B. After the line has passed the air test, it shall be balled and flushed with water to clean. A metal screen shall be used downstream at the point of connection to the existing system to collect and remove any rock or other debris that is flushed out during cleaning.
- 3.04 TESTING OF MANHOLES ON GRAVITY LINES
 - A. At the option of the Contractor, either the following hydrostatic or vacuum test shall be performed.
 - 1. Hydrostatic Test: In general, the following hydrostatic test is in conformance with that presented in Standard Specifications.
 - 2. Insert inflatable plugs in all sewer inlets and outlets.
 - 3. Fill the manhole with water to a point six inches below the base of the manhole frame.
 - 4. Maintain the water at this point for one hour to allow time for absorption.
 - 5. Begin one-hour test period. Measure the amount of water added in one-hour period to maintain the water level at six inches below the base of the manhole frame. Do not allow water level to drop more than 25% of the manhole depth.
 - 6. Determine the allowable leakage by the following formula.
 - L = 0.0002 x D x H1/2
 - L = Allowable leakage, gallons per minute.
 - D = Depth of manhole from top to bottom, feet.
 - H = Head of water in feet as measured from the surface of the water in the manhole to the sewer line invert or to the prevailing ground water surface outside the manhole. The lesser height governs.
 - 7. If the leakage exceeds the allowable, determine the cause, take remedial action and re-test the manhole. If the leakage is less than the allowable and leaks are observed, repair the leaks.
 - B. Vacuum Test:
 - 1. General: Test in accordance with ASTM C1244.
 - 2. Test prior to backfilling around the manhole.
 - 3. Test Preparation: Plug all lift holes and pipes entering or exiting the manhole.
 - 4. Place test head inside the top section of the manhole's cone section and inflate in accordance with the manufacturer's instructions.
 - 5. Draw a vacuum of 10 inches of mercury and shut the pump off.
 - 6. With the valve closed, the time for the vacuum to drop 9 inches shall be measured.

- 7. The manhole shall pass the test if the time is greater than 60 seconds for a 48 inch diameter manhole, 75 seconds for a 60 inch diameter manhole and 90 seconds for a 72 inch diameter manhole.
- 8. If the manhole fails the initial test, make necessary repairs with a non-shrink grout while the vacuum is still being drawn. Retest until a satisfactory test is obtained.

3.05 HYDROSTATIC AND LEAKAGE TESTING OF FORCE MAINS

- A. General:
 - 1. Provide all necessary materials and equipment, including water.
 - 2. Backfill all trenches sufficient to hold pipe firmly in position.
 - 3. Allow time for thrust blocks to cure prior to testing.
 - 4. Flush all pipes prior to testing to remove all foreign material.
 - 5. Perform pressure and leakage test concurrently.
 - 6. Apply test pressure by means of a pump connected to the pipe.
 - 7. Base test pressure on the elevation of the lowest point in the line.
 - 8. Fill each closed valve section or bulk-headed section slowly. Expel air from section being tested by means of permanent air vents installed at high points or by means of temporary corporation cocks installed at such points. Remove and plug the temporary corporation cocks at the conclusion of the test.
 - 9. Ensure the release of air from the line during filling, and prevent collapse due to vacuum when dewatering the line.
 - 10. The pressure test on mortar-lined pipe shall not begin until the pipe has been filled with water for at least 24 hours to allow for absorption in the cement mortar lining.
 - 11. Allow the system to stabilize at the test pressure before conducting the leakage test.
 - 12. Do not operate valves in either the opening or closing direction at differential pressures above the valves rated pressure.
 - 13. Maintain test pressure as specified for type of pipe being tested.
 - 14. Pressure Test: Examine any exposed pipe, fittings, valves, hydrants and joints during the test, if no leaks are observed the section of line has passed the pressure test. If leaks are observed, repair any damaged or defective pipe, fittings, valves, or hydrants, and repeat the pressure test.
 - 15. Leakage Test: Perform as specified hereafter for the type of pipe being installed.
 - 16. Preparation for Test
 - 17. Vents shall be provided at the high points of the system and drains provided where means of venting or draining do not exist.
 - 18. Remove or block off, all relief valves, rupture discs, alarms, control instruments, etc. that shall not be subjected to the test pressure.
 - 19. All discs, balls, or pistons from check valves shall be removed if they interfere with filling of the system. Open all valves between inlet and outlet of the section to be tested.
 - 20. Connect pump and provide temporary closures for all of the external openings in the system. Use caution to insure that the closures are properly designed and strong enough to withstand the test pressure.
 - 21. A joint previously tested in accordance with this specification may be covered or insulated.
 - 22. Expansion joints shall be provided with temporary restraint for additional pressure under test or shall be isolated from the test.
 - 23. Flanged joints, where blanks are inserted to isolate equipment during the test, need not be tested.
- B. DIP Leakage Test: Perform in accordance with AWWA C600. Selected requirements of AWWA C600 are repeated as follows:
 - 1. The pipe shall be subjected to a hydrostatic pressure of 50 percent above the normal operating pressure, or 150 psi, whichever is greater. In no case shall the pressure be allowed to exceed the design pressure for pipe, appurtenances, or thrust restraints.
 - 2. Maintain the test pressure, +/- 5 psi, for a minimum of four hours.
 - 3. No piping will be accepted if the leakage is greater than that determined by the following formula:

 $L = (S \times D \times P1/2)/133,200$

- L = Allowable leakage, gallons per hour.
- S = Length of pipe tested, feet.
- D = Nominal diameter of pipe, inches.
- P = Average test pressure during the leakage test, pounds per square inch (gauge).
- C. PE Pipe Leakage Test:
 - 1. The pipe shall be subjected to a hydrostatic pressure of 50 percent above the normal operating pressure, or 150 psi, whichever is greater. In no case shall the pressure be allowed to exceed the design pressure for pipe, appurtenances, or thrust restraints.
 - 2. Apply the test pressure and allow the pipe to stand, without makeup pressure, for sufficient time to allow for diametric expansion or pipe stretching to stabilize, approximately two to three hours.
 - 3. After the above stabilization has occurred, return the section being tested to the test pressure. Hold the test pressure for four hours. If the pressure in the test section drops, and it is determined the drop may be the result of expansion resulting from increasing temperature, a limited amount of additional water may be added to bring the pressure back to the test pressure. Allowable amounts of make-up water, to compensate for expansion due to increasing temperature, are as shown in the following table. Make-up water is only allowed during this final test period and not during the initial stabilization described in the previous paragraph. If the additional water added is less than the allowable shown in the table and there are no visual leaks or significant pressure drops, the tested section passes the test.

		ce for Expa	ansion et of Pipe)
•	1-Hour	2-Hour	3-Hour
Test	Test	Test	Test
3	0.10	0.15	0.25
4	0.13	0.25	0.40
6	0.30	0.60	0.90
8	0.50	1.0	1.50
10	0.75	1.3	2.1
11	1.0	2.0	3.0
12	1.1	2.3	3.4
14	1.4	2.8	4.2
16	1.7	3.3	5.0
18	2.2	4.3	6.5
20	2.8	5.5	8.0
22	3.5	7.0	10.5
24	4.5	8.9	13.3
28	5.5	11.1	16.8
32	7.0	14.3	21.5
36	9.0	18.0	27.0
40	11.0	22.0	33.0
48	15.0	27.0	43.0

- D. PVC Pipe Leakage Test: Perform in accordance with AWWA M23. Selected requirements of AWWA M23 are repeated as follows:
 - 1. The pipe shall be subjected to a hydrostatic pressure of 50 percent above the normal operating pressure, or 150 psi, whichever is greater. In no case shall the pressure be allowed to exceed the design pressure for pipe, appurtenances, or thrust restraints.
 - 2. Maintain the test pressure, +/- 5 psi, for a minimum of four hours.

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3. No piping will be accepted if the leakage is greater than that determined by the following formula:

 $L = (N \times D \times P1/2)/7,400$

L = Allowable leakage, gallons per hour.

N = Number of joints in the length of the pipeline tested.

- D = Nominal diameter of pipe, inches.
- P = Average test pressure during the leakage test, pounds per square inch (gauge).

3.06 DEFLECTION TESTING

- A. Upon completion of work, perform a deflection test on entire length of installed plastic pipeline. Completed work includes superimposed loads adjacent to and over the pipeline, such as compacted backfill and earthwork, and does not include paving, concrete curbs and gutters, sidewalks, walkways, and landscaping.
- B. Under external loads, deflection of pipe in the installed pipeline shall not exceed 4.5 percent of the average inside diameter of pipe.
- C. Determine whether the allowable deflection has been exceeded by use of a pull-through device or a deflection-measuring device.
- D. Pull-Through Device:
 - 1. Provide a spherical, spheroidal, or elliptical ball, a cylinder, or circular sections fused to a common shaft.
 - a. Circular sections shall be so spaced on the shaft that distance from external faces of front and back sections will equal or exceed diameter of the circular section.
 - b. Pull-through device may also be of a design approved by the Uni-Bell Plastic Pipe Association, provided that the device meets the applicable requirements specified in this paragraph, including those for diameter of the device.
 - 2. Ball, cylinder, or circular sections shall conform to the following:
 - a. A diameter, or minor diameter as applicable, of 95 percent of the average inside diameter of the pipe; tolerance of plus 0.5 percent will be permitted.
 - b. A homogeneous material throughout, with a density greater than 1.0 as related to water at 39.2 degrees F, and a surface Brinell hardness of not less than 150.
 - c. Center bored and through bolted with a ¼ inch minimum diameter steel shaft having a yield strength of not less than 70,000 pounds per square inch, with eyes or loops at each end for attaching pulling cables.
 - d. Each eye or loop shall be suitably backed with a flange or heavy washer such that a pull exerted on opposite end of shaft will produce compression throughout remote end.
- E. Pull-Through Device:
 - 1. Pass the pull-through device through each run of pipe, either by pulling it through or flushing it through with water.
 - 2. If the device fails to pass freely through a pipe run, replace pipe which has the excessive deflection and completely retest in same manner and under same conditions as specified.
- F. Deflection measuring Device:
 - 1. Sensitive to 1.0 percent of the diameter of the pipe being tested and accurate to 1.0 percent of the indicated dimension.
 - 2. Obtain approval of deflection measuring device prior to use.
- G. Deflection Measuring Device Procedure:
 - 1. Measure deflections through each run of installed pipe.

- 2. If deflection readings in excess of 4.5 percent of average inside diameter of pipe are obtained, retest pipe by a run from the opposite direction.
- 3. If retest continues to show a deflection in excess of 4.5 percent of average inside diameter of pipe, remove pipe which has excessive deflections, replace with new pipe, and completely retest in same manner and under same conditions.
- H. Warranty Period Test: Pipe found to have a deflection of greater than 5 percent of average inside diameter when deflection test is performed just prior to end of 1 year warranty period shall be replaced with new pipe and tested as specified for leakage and deflection.
- 3.07 CLEANING
- A. Thoroughly clean sewer lines and manholes of sediments, dirt, debris, and obstructions of any kind.
- 3.08 TELEVISION INSPECTION
- A. After completion of the pipe installation, service connections, flushing and cleaning, and prior to placement of pavement, the sewer line shall be televised with a color closed-circuit television with tilt-head camera recorded in DVD format. The original disc and log sheets shall be provided to the Owner for review.
- B. The following observations from television inspections will be considered defects in the construction of sewer pipelines and will require correction prior to placement of pavement:
 - 1. Low spot (1 inch or greater mainlines only)
 - 2. Joint separations (3/4 inch or greater opening between pipe sections)
 - 3. Cocked joints present in straight runs or on the wrong side of pipe curves
 - 4. Chips in pipe ends
 - 5. Cracked or damaged pipe
 - 6. Dropped joints
 - 7. Infiltration
 - 8. Debris or other foreign objects
 - 9. Other obvious deficiencies
 - 10. Irregular condition without logical explanation

END OF SECTION 33 3000

SECTION 33 4100

STORM UTILITY DRAINAGE PIPING

PART 1 - GENERAL

- 1.01 SECTION INCLUDES
- A. Roadway and/or site storm drainage system up to five feet of any on-site building
- 1.02 RELATED SECTIONS
 - A. Section 31 2100, Utility Trenching and Backfill
- 1.03 RELATED DOCUMENTS
 - A. ASTM
 - 1. A74: Cast Iron Soil Pipe and Fittings
 - 2. A615: Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
 - 3. C143: Standard Test Method for Slump of Hydraulic-Cement Concrete
 - 4. C443: Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
 - 5. C478: Circular Precast Reinforced Concrete Manhole Sections
 - 6. C564: Rubber Gaskets for Cast Iron Soil Pipe and Fittings
 - 7. C923: Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals
 - 8. C1173: Flexible Transition Couplings for Underground Piping Systems
 - 9. D1785: Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
 - 10. D2321: Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity Flow Applications
 - 11. D2564: Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems
 - 12. D3034: Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
 - 13. D4101: Propylene Injection and Extrusion Materials
 - 14. F477: Elastomeric Seals (Gaskets) for Joining Plastic Pipe
 - 15. F656: Primers for Use in Solvent Cement Joints of Poly(Vinyl Chloride) (PVC) Plastic Pipe and Fittings
 - 16. F679: Poly(Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings
 - 17. F1336: Poly(Vinyl Chloride) (PVC) Gasket Sewer Fittings
- 1.04 DEFINITIONS
 - A. AASHTO: American Association of State Highway and Transportation Officials
 - B. ASTM: American Society for Testing Materials
 - C. AWWA: American Water Works Association
 - D. NPS: Nominal pipe size
 - E. PVC: Polyvinyl Chloride
- 1.05 SUBMITTALS
 - A. Follow submittal procedure outlined in Section 01 10 00, Supplemental General Requirements.
 - B. Product data for the following:
 - 1. Piping materials and fittings
 - 2. Plastic area drains
 - 3. Cleanout plugs or caps
 - C. Design Mix Reports and Calculations: For each class of cast in place concrete

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- D. Field Test Reports: Indicate and interpret test results for compliance with performance.
- 1.06 DELIVERY, STORAGE AND HANDLING
- A. Delivery and Storage
 - 1. Piping: Inspect materials delivered to site for damage; store with minimum of handling. Store materials on site in enclosures or under protective coverings. Store plastic piping and jointing materials and rubber gaskets under cover out of direct sunlight. Do not store materials directly on the ground. Keep inside of pipes and fittings free of dirt and debris.
 - 2. Metal Items: Check upon arrival; identify and segregate as to types, functions, and sizes. Store off the ground in a manner affording easy accessibility and not causing excessive rusting or coating with grease or other objectionable materials.
- B. Handling
 - 1. Handle pipe, fittings, and other accessories in such manner as to ensure delivery to the trench in sound undamaged condition. When handling lined pipe, take special care not to damage linings of pipe and fittings; if lining is damaged, make satisfactory repairs. Carry, do not drag, pipe to trench.
 - 2. Handle precast concrete pipe, manholes and other precast structures according to manufacturer's written instructions.
 - 3. Protect imported bedding and backfill material from contamination by other materials.

PART 2 - PRODUCTS

- 2.01 PVC PIPE, 4 INCH AND LARGER
 - A. Pipe
 - 1. 4 inch through 15 inch: ASTM D3034, SDR 35
 - B. Bell and spigot joints
 - C. Fittings:
 - 1. 4 inch through 27 inch: ASTM F1336
 - D. Joint Gasket: Elastomeric seal, ASTM F477
 - E. Special Pipe Coupling: ASTM C 1173. Rubber or elastomeric sleeve and band assembly fabricated to match outside diameters of pipes to be joined

2.02 PIPE CLEANOUTS

- A. Piping: Same as storm drain line if possible
- B. Top Plug or Cap: Same material as piping if possible. Plug or cap to be secure but removable, threaded or non-threaded.
- C. Box Size: As required to provide access and allow easy removal and reinstallation of cap
- D. Box Types
- 1. Non-Traffic Areas: Portland cement concrete box and box cover, light duty
- 2. Traffic Areas: Portland cement concrete box and box cover or steel or cast iron cover, heavy duty, both box and cover to be rated for AASHTO H20 loading
- E. Box Cover Markings: "S.D.," unless otherwise specified
- F. Available Manufacturers: Subject to compliance with requirements, box manufacturers offering products that may be incorporated into the Project include, but are not limited to the following:
 - 1. Associated Concrete Products, Inc.
 - 2. Brooks Products Inc.

3. OldCastle Precast/Christy Concrete Products, Inc.

2.03 AREA DRAINS

- A. Grate and Riser: Area drain shall be as manufactured by NDS or approved equal. Riser shall be constructed of 6 inch PVC SDR 35 piping per paragraph 2.1(A) of this section and connected to area drain by a gasket joint. Riser shall be vertical except as otherwise noted in the plans. Riser may include a reducer if necessary to make connection to the storm drain line.
- B. Elevation and Grading: Area Drain rim elevation shall be set and area around area drain shall be graded to drain away from any adjacent structures, walks, or roadways and towards area drain.
- **2.04** CURB INLETS, CATCH BASINS, DROP INLETS, JUNCTION STRUCTURES, AREA DRAINS, ETC.
- A. General: Size, shape, configuration, depth, etc. of structure and frame, grate, or cover shall be as indicated.
- B. Portland Cement Concrete and Reinforcing: Section 32 1318, Cement and Concrete for Exterior Improvements.
- C. Precast Structure: Rate for AASHTO H20 loading in traffic areas.
- D. Frames, Grates and Covers: Caltrans Standard Specification Section 75-1.02, 75-1.02.B and 75-2
 - 1. Galvanize steel frames, grates and covers
 - 2. Grates and covers shall be non-rocking
 - 3. Rate for AASHTO H20 loading in traffic areas
- 2.05 PIPE TO STRUCTURE CONNECTOR/SEAL
 - A. A flexible pipe to manhole connector shall be used for all pipe penetrations to pre-cast and/or castin-place concrete structures.
 - 1. The seal shall provide a flexible, positive, watertight connection between pipe and concrete wastewater structures. The connector shall assure that a seal is made between (1) the connector and the structure wall, and (2) between the connector and the pipe. The seal between the connector and the manhole wall shall be made by casting the connector integrally with the structure wall during the manufacturing process in such a manner that it will not pull out during coupling. The seal between connector and pipe will be made by way of a stainless steel take down band compressing the gasket against the outside diameter of the pipe.
 - 2. The connector shall be molded from materials whose physical/chemical properties meet or exceed the physical/chemical resistant properties outlined in ASTM C923. The connector and stainless steel hardware shall meet or exceed the performance requirements proscribed in ASTM C923.
 - 3. The connector shall be of size specifically designed for the pipe material being used and shall be installed in accordance with recommendations of the manufacturer.
 - 4. Connectors shall be Z-LOK or G3 connectors manufactured by A-LOK Products Inc. or approved equivalent.

PART 3 - EXECUTION

- 3.01 PIPE INSTALLATION
- A. General: Install pipe, fittings, and appurtenances utilizing best practices, manufacturer's instructions, and in accordance with Section 6 and 7 of ASTM D 2321 for plastic pipe, Caltrans Standard Specification Section 65-2.03 for reinforced concrete pipe, Caltrans Standard Specification Section 66-1.03 for corrugated metal pipe, and chapter 11.3.3 of AWWA M41 for cast iron and ductile iron pipe.
- B. Pipe Depth and Trench Configuration: Conform to typical trench section(s) indicated.

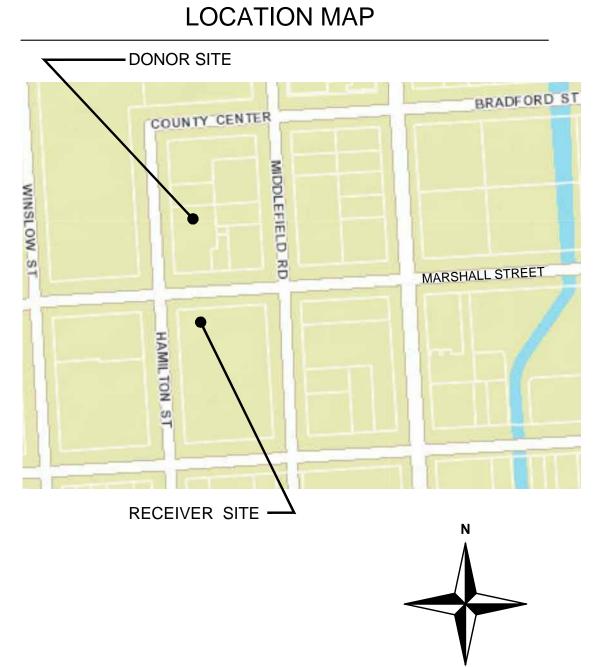
- C. Excavation, Bedding, Backfill, and Compaction: Section 31 2100, Utility Trenching and Backfill
- D. Handling: Carefully handle during loading, hauling, unloading and placing operations to avoid breakage or damage. Use strap type slings for lifting and placing; no chains or hooks will be permitted. Comply with the manufacturer's recommendations.
- E. Laying: Before lowering pipe into the trench, remove all stakes, debris, loose rock and other hard materials from the bottom of the trench. Lay accurately in conformance with lines and grades indicated. Start laying the pipeline at the low end and proceed upstream. Lay bell and spigot pipe with the bell end facing upstream. Lay pipe on a bed prepared by handwork, dug true to grade. Furnish firm bearing for pipe throughout its entire length with bell holes provided at the ends of each pipe length of sufficient size to permit making up the particular type of joint being used. Adjust pipe to line and grade by scraping away or filling and tamping material under the body of the pipe for the entire pipe length and not by blocking or wedging. After final positioning, hold pipe in place in trench with backfill material placed equally on both sides of the pipe at as many locations as required to hold the pipe section in place.
- F. Curved Alignment: When necessary to conform to the alignment specifically indicated, lay pipe on a curved alignment by means of asymmetrical closure of joints or bending of the pipe barrel. Use shorter lengths of pipe than the standard length if necessary to achieve curvature specified. Do not exceed the recommendations of the pipe manufacture for deflections at the joints or pipe bending.
- G. Closure: Close open ends of pipes and appurtenance at the end of each day's work or when work is not in progress.
- 3.02 PIPELINE FLUSHING
- A. Newly constructed storm drain pipes shall be flushed with water to clean. A metal screen shall be used to collect and remove any rock, silt and other debris that is flushed out during cleaning.
- 3.03 DEFLECTION TESTING
 - A. Upon completion of work, perform a deflection test on entire length of installed plastic pipeline. Completed work includes superimposed loads adjacent to and over the pipeline, such as compacted backfill and earthwork, and does not include paving, concrete curbs and gutters, sidewalks, walkways, and landscaping.
 - B. Under external loads, deflection of pipe in the installed pipeline shall not exceed 4.5 percent of the average inside diameter of pipe.
 - C. Determine whether the allowable deflection has been exceeded by use of a pull-through device or a deflection-measuring device.
 - D. Pull-Through Device:
 - 1. Provide a spherical, spheroidal, or elliptical ball, a cylinder, or circular sections fused to a common shaft.
 - a. Circular sections shall be so spaced on the shaft that distance from external faces of front and back sections will equal or exceed diameter of the circular section.
 - b. Pull-through device may also be of a design approved by the Uni-Bell Plastic Pipe Association, provided that the device meets the applicable requirements specified in this paragraph, including those for diameter of the device.
 - 2. Ball, cylinder, or circular sections shall conform to the following:
 - a. A diameter, or minor diameter as applicable, of 95 percent of the average inside diameter of the pipe; tolerance of plus 0.5 percent will be permitted.
 - b. A homogeneous material throughout, with a density greater than 1.0 as related to water at 39.2 degrees F, and a surface Brinell hardness of not less than 150.

- c. Center bored and through bolted with a ¼ inch minimum diameter steel shaft having a yield strength of not less than 70,000 pounds per square inch, with eyes or loops at each end for attaching pulling cables.
- d. Each eye or loop shall be suitably backed with a flange or heavy washer such that a pull exerted on opposite end of shaft will produce compression throughout remote end.
- 3. Pull-Through Device:
- a. Pass the pull-through device through each run of pipe, either by pulling it through or flushing it through with water.
- b. If the device fails to pass freely through a pipe run, replace pipe which has the excessive deflection and completely retest in same manner and under same conditions as specified.
- E. Deflection measuring Device:
 - 1. Sensitive to 1.0 percent of the diameter of the pipe being tested and accurate to 1.0 percent of the indicated dimension.
 - 2. Obtain approval of deflection measuring device prior to use.
- F. Deflection Measuring Device Procedure:
 - 1. Measure deflections through each run of installed pipe.
 - 2. If deflection readings in excess of 4.5 percent of average inside diameter of pipe are obtained, retest pipe by a run from the opposite direction.
 - 3. If retest continues to show a deflection in excess of 4.5 percent of average inside diameter of pipe, remove pipe which has excessive deflections, replace with new pipe, and completely retest in same manner and under same conditions.
- G. Warranty Period Test: Pipe found to have a deflection of greater than 5 percent of average inside diameter when deflection test is performed just prior to end of 1 year warranty period shall be replaced with new pipe and tested as specified for leakage and deflection.
- 3.04 CLEANING
- A. Thoroughly clean storm drain lines, manholes, catch basins, field inlets, culverts, and similar structures, of dirt, debris, and obstructions of any kind.

END OF SECTION 33 4100







ADDRESS:

GENERAL

DONOR: 627 HAMILTON STREET REDWOOD CITY, CA 94063 **RECEIVER: 701 HAMILTON STREET** SE CORNER OF INTERSECT

W/ MARSHALL REDWOOD CITY, CA 94063 THIS PROJECT IS A PRESERVATION EF **DESCRIPTION:** PREPARATION FOR FUTURE DEVELOPM THE DONOR SITE. THE PRIMARY SCOPI WORK IS TO RELOCATE THE EXISTING HISTORIC LATHROP HOUSE FROM ITS CURRENT LOCATION TO ITS NEW LOCA THE NORTHWEST CORNER OF THE HIS COUNTY COURTHOUSE BLOCK.

CODE INFORMATION

BUILDING CODE: 2016 CALIFORNIA HISTORICAL BUILDING CODE 2016 CALIFORNIA BUILDING CODE 2016 CALIFORNIA PLUMBING, MECHANICAL ELECTRICAL AND ENERGY EFFICIENCY STANDARDS 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE COUNTY OF SAN MATEO BUILDING REGULATIONS, **DIVISION, DIVISION VII, CHAPTER 5, REGULATIONS ON MOVING & REMOVAL OF BUILDINGS & STRUCTURES**

LATHROP HOUSE

PROJECT INFORMATION

PROJECT DIRECTORY

3	APN:	052-344-140 (DONOR) / 052-367-010 (RECEIVER)	OWNER:	COUNTY OF SAN MATEO PROJECT DEVELOPMENT UNIT
	ZONING:	P - DOWNTOWN PRECISE PLAN		1402 MAPLE STREET
TION	OCCUPANCY:	GROUP A-3 ASSEMBLY / B BUSINESS		REDWOOD CITY, CA 94063
3 FFORT IN	CONSTRUCTIO	N TYPE V-B (NON-RATED)	ARCHITECT:	MICHAEL GARAVAGLIA, AIA GARAVAGLIA ARCHITECTURE, INC. 582 MARKET STREET, SUITE 1800
PMENT OF PE OF G S CATION AT	PROPO	NG BUILDING FOOTPRINT AREA: 1,808 SF SED BUILDING FOOTPRINT AREA: 1,808 SF		SAN FRANCISCO, CA 94104 CONTACT: AMBROSE WONG TEL: 415-391-9633 FAX: 415-391-9647 EML: ambrose@garavaglia.com
ISTORIC		FLOOR AREA (SF): <u>EXISTING</u>	CIVIL:	BKF ENGINEERS
	FIRST F SECON TOTAL	FLR. 1,808 SF ID FLR. 1,585 SF 3,393 SF		1646 N. CALIFORNIA BLVD., SUITE 400 WALNUT CREEK, CA 94596 CONTACT: MICHAEL STEELE TEL: 925-940-2257 FAX: 925-940-2299
		AD:		EML: msteele@bkf.com
	GROUP B (KITC	(HIBIT): 1,285 SF / 30 SF/PERSON NET = 43 PEOPLE CHEN): 110 SF / 100 SF/PERSON = 2 PEOPLE PRAGE): 50 SF / 300 SF/PERSON = 2 PEOPLE	STRUCTURAL:	DUQUETTE ENGINEERING 4340 STEVENS CREEK BLVD., SUITE 200 SAN JOSE, CA 95129
	SECOND FLOO	<u>R</u>		CONTACT: STEVE DUQUETTE TEL: 408-615-9200
		(HIBIT): 1,064 SF / 30 SF/PERSON NET= 36 PEOPLE ICES): 140 SF / 100 SF/PERSON = 2 PEOPLE		FAX: 408-615-9900 EML: spd@duquette-eng.com
	TOTAL: 85 PEO	PLE	MEP:	EDesignC, INC. 582 MARKET STREET, SUITE 400 SAN FRANCISCO, CA 94104 CONTACT: MARCUS TAM TEL: (415) 963-4303 FAX: (415) 963-4341 EML: marcus@edesignc.com
			LANDSCAPE:	CALLANDER ASSOCIATES 1633 BAYSHORE BLVD. SUITE 133 BURLINGAME, CA 94010 CONTACT: BRIAN FLETCHER TEL: 650-375-1313 FAX: 925-344-3290 EML: bfletcher@callanderassociates.com
			COST ESTIMATOR:	SAYLOR CONSULTING GROUP 71 STEVENSON STREET, SUITE 400 SAN FRANCISCO, CA 94105 CONTACT: JEFF SAYLOR TEL: 415-399-9990 FAX: 415-354-8392 EML: jsaylor@saylorconsulting.com

EXHIBIT 1



582 MARKET STREE SUITE 1800 SAN FRANCISCO, CA 9410 T: 415.391.9633 F: 415.391.9647

www.garavaglia.com

LATHROP HOUSE

RELOCATION REDWOOD CITY, CA 94063

DRAWING INDEX

- COVER SHEET A-0.00
- A-0.01 **GENERAL NOTES**
- CIVIL:
- C1.0 EXISTING CONDITIONS AND DEMOLITION PLAN
- C2.0 GRADING PLAN
- C3.0 UTILITY PLAN
- C4.0 EROSION CONTROL PLAN
- C5.0 CONSTRUCTION DETAILS

ARCHITECTURAL:

- A-1.11 SITE PLAN-PROPOSED (RECEIVER SITE)
- A-2.01 FIRST FLOOR PLAN
- A-2.02 SECOND FLOOR PLAN
- A-3.01 EXTERIOR ELEVATION
- A-3.02 EXTERIOR ELEVATIONS
- A-3.03 EXTERIOR ELEVATION
- A-8.01 EXTERIOR DETAILS

STRUCTURAL:

S0.0	STRUCTURAL SPECIFICATIONS,
	NAILING SCHEDULE, STANDARD DETAILS,
	SYMBOLS LEGEND, TABLE OF CONTENTS
S1.0	FOUNDATION PLAN
S2.0	FOUNDATION DETAILS
S2.1	FOUNDATION DETAILS

ELECTRICAL / PLUMBING:

E-0.01	ELECTRICAL TITLE SHEET
E-1.01	FIRST FLOOR ELECTRICAL DEMOLITION PLAN
E-2.01	ELECTRICAL SITE PLAN
P-0.01	PLUMBING TITLE SHEET
P-1.01	FIRST FLOOR PLUMBING DEMOLITION PLAN
P-2.01	PLUMBING SITE PLAN

- LANDSCAPE:
- L1.0 SITE CONSTRUCTION PLAN L2.0 **IRRIGATION PLAN** L3.0 PLANTING PLAN L4.0 CONSTRUCTION DETAILS L4.1 CONSTRUCTION DETAILS



COVER SHEET

PROJ. NO.	2016 - 105
SCALE	NO SCALE
DATE	<u>8 JUNE 2017</u>
PHASE	SD
DRAWN	LK
CHECKED	

NO. DATE REVISION 20 OCT 2017 PERMIT SUBMITTAL 20 NOV 2017 PERMIT SET



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- THE CONTRACT FOR CONSTRUCTION SHALL BE THE A.I.A. DOCUMENT A107 - STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR A PROJECT OF LIMITED SCOPE, 2007 ed. AND A.I.A. DOCUMENT A201 - GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION, 2007 ed.
- 2. THE ARCHITECT/OWNER SHALL SUBMIT DRAWINGS FOR PLAN CHECK. THE OWNER SHALL PAY FOR ALL PLAN CHECK FEES. THE CONTRACTOR SHALL PICK UP PERMITS.
- 3. ALL WORK SHALL CONFORM TO THE 2016 CALIFORNIA HISTORICAL BUILDING CODE, THE 2016 CALIFORNIA BUILDING CODE AS WELL AS TO THE LATEST EDITIONS OF THE ELECTRICAL, PLUMBING, MECHANICAL AND ANY OTHER APPLICABLE CODES. ALL WORK SHALL CONFORM TO THE SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATION AS OUTLINED ON THIS SHEET.
- 4. ALL WORK SHALL CONFORM TO ALL LOCAL CODES AND/OR ORDINANCES.
- 5. ALL WORK SHALL BE COMPLETED SKILLFULLY AND IN ACCORDANCE WITH ACCEPTED TRADE STANDARDS.
- 6. EXCEPT WHERE CONTRACT DOCUMENTS INCLUDE MORE STRINGENT REQUIREMENTS, APPLICABLE INDUSTRY STANDARDS INCLUDING MANUFACTURER STANDARDS AND INSTALLATION INSTRUCTIONS HAVE THE SAME FORCE AND EFFECT AS IF BOUND OR COPIED INTO THE CONTRACT DOCUMENTS. SUCH STANDARDS ARE PART OF THE CONTRACT DOCUMENTS BY REFERENCE. WHERE COMPLIANCE WITH A STANDARD IS REQUIRED. COMPLY WITH THE STANDARD IN EFFECT AS OF THE DATE OF THE CONTRACT DOCUMENTS.
- 7. THE CONTRACTOR SHALL COORDINATE THE VARIOUS CONSTRUCTION ACTIVITIES TO ENSURE EFFICIENT AND ORDERLY INSTALLATION OF EACH PART OF THE WORK. COORDINATE CONSTRUCTION OPERATIONS THAT ARE DEPENDENT UPON EACH OTHER FOR PROPER INSTALLATION, CONNECTION. AND OPERATION.
- 8. CONTRACTOR SHALL COORDINATE WITH OWNER FOR OWNER PROVIDED MATERIALS.
- 9. CONTRACTOR SHALL COORDINATE WITH OWNER FOR REQUIRED SCHEDULING & ORDERING INFORMATION. CONTRACTOR SHALL ASSIST IN DETERMINING QUANTITIES WHEN REQUIRED.
- 10. CONTRACTOR SHALL PROVIDE OWNER W/ REQUESTED DELIVERY DATES FOR ALL P.B.O. PRODUCTS & KEEP OWNER ABREAST OF SCHEDULE **REVISIONS. OWNER SHALL DETERMINE LEAD TIME FOR ALL PRODUCTS &** HAVE PRODUCTS DELIVERED WHEN NEEDED BY CONTRACTOR
- 11. CONTRACTOR SHALL INFORM THE ARCHITECT OF SCHEDULE REVISIONS.
- 12. CONTRACTOR SHALL INFORM THE ARCHITECT ON THE PROGRESS OF THE WORK ON A WEEKLY BASIS OR MORE FREQUENTLY AS CONDITIONS WARRANT.
- 13. CONTRACTOR SHALL SCHEDULE MEETINGS WITH THE ARCHITECT ON A TIMELY BASIS AND TO ALLOW FOR TIME REQUIRED TO PROVIDE APPROPRIATE RESPONSE TO ANY QUESTIONS OR SITE CONDITIONS.
- 14. CONTRACTOR SHALL ARRANGE FOR A PRECONSTRUCTION MEETING AND FOR ANOTHER MEETING AFTER DETERMINING THE PROJECT DIMENSIONAL LAYOUT FOR THE REVIEW BY THE ARCHITECT AND OWNER.
- 15. CONTRACTOR SHALL ALLOW TWO WEEKS FOR REVIEW BY THE ARCHITECT OF SUBMITTALS, SHOP DRAWINGS, SUBSTITUTIONS, AND RFI'S BY THE ARCHITECT. CONTRACTOR SHALL REVIEW ALL SUBMITTALS BEFORE ISSUING THEM TO THE ARCHITECT FOR REVIEW.
- 16. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW OF CONFORMANCE WITH DESIGN INTENT.
- 17. ALL CHANGE ORDERS SHALL BE IN WRITING AND SHALL BE SIGNED BY THE OWNER, ARCHITECT, AND CONTRACTOR. CHANGE ORDERS SHALL BE SIGNED PRIOR TO BEGINNING THE WORK OR ORDERING THE MATERIALS ADDRESSED IN THE CHANGE ORDER.
- 18. CONTRACTOR SHALL SUBMIT ALL DESIGN CHANGES OR SUBSTITUTIONS TO THE ARCHITECT FOR APPROVAL. THE ARCHITECT SHALL NOT BE RESPONSIBLE FOR ANY CHANGES IN PLANS, DETAILS, OR SPECIFICATIONS UNLESS APPROVED IN WRITING AND IN ADVANCE BY THE ARCHITECT.
- 19. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ALL MODIFICATIONS REQUESTED BY THE BUILDING DEPARTMENT, OR OFFICIAL HAVING JURISDICTION, AND OF ALL CHANGES REQUESTED BY THE INSPECTOR, OWNER, OR OTHERS. SUBSTITUTIONS WILL BE CONSIDERED, BUT DO NOT SUBSTITUTE DETAILS, EQUIPMENT, OR METHODS WITHOUT SPECIFIC WRITTEN APPROVAL BY THE ARCHITECT.
- 20. CONTRACTOR SHALL VERIFY WITH THE ARCHITECT CODE UPGRADE WORK NOT REQUIRED BY BUILDING INSPECTORS. IF THE CONTRACTOR BELIEVES CODE WORK IS NECESSARY, AND IT HAS NOT BEEN REQUIRED BY BUILDING INSPECTOR, THE ARCHITECT SHALL DETERMINE, WITH OWNER'S CONSENT, WHETHER WORK SHALL BE UNDERTAKEN.
- 21. REMODELING OR REHABILITATION OF AN EXISTING BUILDING REQUIRES THAT CERTAIN ASSUMPTIONS BE MADE REGARDING EXISTING CONDITIONS. BECAUSE SOME OF THE ASSUMPTIONS MAY NOT BE VERIFIABLE WITHOUT DESTROYING ADEQUATE OR SERVICEABLE PORTIONS OF THE BUILDING, THE CONTRACTOR SHALL VERIFY ALL QUESTIONS, CONDITIONS AND PROCEDURES WITH THE ARCHITECT PRIOR TO COMMENCING EACH PORTION OF THE WORK.

ARCHITECTURAL GENERAL NOTES

- 22. THE CONTRACTOR SHALL CONFIRM ALL EXISTING DIMENSIONS A CONDITIONS IN THE FIELD PRIOR TO BEGINNING WORK. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIO BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT CLARIFICATION PRIOR TO PROCEEDING WITH WORK. THE CONTR SHALL RESOLVE ANY DISCREPANCY PRIOR TO PROCEEDING WIT
- 23. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. DIMENSIONS ARE TO T OF FINISH. UNLESS OTHERWISE NOTED.
- 24. WHERE CONSTRUCTION ABUTS ADJACENT PROPERTY OR AN EXI-STRUCTURE, THE CONTRACTOR SHALL VERIFY, PRIOR TO THE ST WORK, IF ANY CONDITIONS WILL AFFECT WORK PROGRESS OR CONFORMANCE TO THESE DOCUMENTS.
- 25. THE REMOVAL OR ALTERING IN ANY WAY OF EXISTING WORK SHA CARRIED ON IN SUCH A MANNER AS TO PREVENT INJURY OR DAM ANY PORTION(S) OF THE EXISTING WORK, WHICH REMAIN(S).
- 26. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE INCURI RESULT OF THE WORK. ANY DAMAGE SHALL BE REPAIRED AT NO ADDITIONAL COST TO OWNER.
- 27. EXECUTE WORK TO ENSURE THE SAFETY OF PERSONS AND ADJA PROPERTY FROM DAMAGE CAUSED BY CONSTRUCTION OPERAT CONNECTION WITH THIS WORK. WHERE EXISTING CONSTRUCTION DAMAGED, OR REMODELED, PATCH OR REPLACE WITH MATERIAI MATCH IN KIND, QUALITY, AND PERFORMANCE WITH ADJACENT M
- 28. DO NOT NOTCH, BORE, OR CUT MEMBERS FOR PIPES, DUCTS, OR REASONS WITHOUT THE SPECIFIC, ADVANCE WRITTEN APPROVA STRUCTURAL ENGINEER.
- 29. THE CONTRACTOR IS RESPONSIBLE FOR CAPPING OFF ANY UTIL DISTURBED DURING THE DEMOLITION AND CONSTRUCTION PROC COULD BE A SAFETY HAZARD OR CAUSE DAMAGE TO THE BUILDI
- 30. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TEMPOR SUPPORTS, BARRICADES, AND SHORING AS REQUIRED FOR REL OF THE HOUSE. CONTRACTOR SHALL SUBMIT SHORING AND MOV FOR APPROVAL PRIOR TO BEGINNING RELOCATION.
- 31. UNLESS OTHERWISE INDICATED, ALL NEW WORK SHALL MATCH E MATERIALS, DETAILS, TRIM, ETC. TO THE FULLEST EXTENT POSSI PROVIDE PRODUCTS OF THE SAME KIND AND FROM A SINGLE SO
- 32. PRIOR TO ORDERING OR FABRICATING MATERIAL, EQUIPMENT, C PRODUCTS, THE CONTRACTOR SHALL DETERMINE THAT THE SIZ PRODUCTS INDICATED MEET THE INTENT OF THE CONTRACT DOO
- 33. THE CONTRACTOR SHALL INSPECT MATERIALS AND EQUIPMENT IMMEDIATELY UPON DELIVERY AND AGAIN PRIOR TO INSTALLATION CONTRACTOR SHALL REJECT DAMAGED AND DEFECTIVE ITEMS
- 34. CONTRACTOR SHALL INSTALL ALL EQUIPMENT, FIXTURES AND MA PER MANUFACTURER'S RECOMMENDATIONS. FOLLOW MANUFAC INSTRUCTIONS CAREFULLY. MANUFACTURER'S INSTRUCTIONS A GUARANTEES SHALL BE GIVEN TO THE OWNER AT THE END OF T
- 35. THE CONTRACTOR SHALL FLASH AND COUNTERFLASH TO S.M.A. STANDARDS, INDUSTRY STANDARDS, AND MANUFACTURER'S SPECIFICATIONS WHEREVER NECESSARY TO PROVIDE A WATER AND WEATHERPROOF CONSTRUCTION PROJECT.
- 36. IF OPENED IN COURSE OF WORK PROVIDE AND INSTALL NEW FIBERGLASS BATT INSULATION AS FOLLOWS, U.O.N. R-13 AT (N) EXTERIOR WALLS OR WALLS ADJACENT TO UNCONDI SPACES
- R-19 AT (E) AND (N) FLOORS,
- R-19 AT (E) AND (N) ATTICS R-19 AT (N) CEILINGS/FLOORS
- 37. WHERE GLASS IS BEING REPLACED IN (E) HISTORIC WINDOWS OF DOORS, PROVIDE AND INSTALL REPLACEMENT GLASS IN KIND. F AND INSTALL TEMPERED GLAZING IN (N) NON-HISTORIC OPENING WHERE REQUIRED BY CODE.
- 38. CONTRACTOR SHALL INSPECT AND APPROVE PLYWOOD SUBSTR BUILDING PAPER FOR PROPER INSTALLATION. ADEQUATE PREP. OF THE SUBSTRATE IS IMPERATIVE FOR PROPER BONDING OF TH PREPARE EACH SUBSTRATE AS RECOMMENDED BY THE MANUFACTURER. CLEAN ALL SURFACES THROUGHOUT, REMOV PAINT WHERE BONDING FAILURE IS EVIDENT & ROUGHEN ANY SU AS REQUIRED FOR ADHESION OF (N) PAINT.
- 39. NOT USED.
- 40. ALL EXTERIOR EXPOSED WOOD TO BE APPROVED, NATURALLY W AND PEST RESISTANT, OR PRESSURE TREATED. ALL CUTS SHAL TREATED W/ PRESERVATIVE COATING BEFORE INSTALLATION. A METAL CONNECTORS AND FASTENERS IN CONTACT WITH TREATI WOOD SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL

ND NS MUST FOR RACTOR H WORK.	 41. ALL FINISHES SHALL BE PAINTED AS FOLLOWS: EXTERIOR: THREE COAT STAIN & SEAL WHERE INDICATED INTERIOR: TWO COAT FOR LIGHT INTERIOR, THREE COAT FOR DARK INTERIOR STAIN & SEAL WHERE INDICATED COLORS TO BE SELECTED BY THE ARCHITECT & OWNER. FINAL ACCEPTANCE OF COLORS WILL BE FROM JOB-APPLIED SAMPLES. PROVIDE FULL COAT FINISH SAMPLES ON SURFACES WITH A MINIMUM SIZE OF 4 SF FOR APPROVAL BY THE ARCHITECT & OWNER.
ISTING TART OF	42. AS A MINIMUM, ALL INTERIOR WOOD TRIM SHALL BE PAINT GRADE, SOLID WOOD, (SPECIES TO BE DETERMINED) AND ALL EXTERIOR WOOD TRIM SHALL BE PAINT GRADE, WEATHER-RESISTANT WOOD.
ALL BE MAGE TO	43. CONTRACTOR SHALL CONTACT ARCHITECT FOR DECISIONS REGARDING ALL MATERIALS PROVIDED BY CONTRACTOR WHICH REQUIRE COLOR OR FINISH SELECTIONS.
RED AS A	44. NOT USED.
)	45. NOT USED.
ACENT IONS IN DN IS CUT, LS TO MATERIALS.	46. THE CONTRACTOR SHALL KEEP THE JOB SITE CLEAN AND SAFE AT ALL TIMES, INCLUDING CLEANING MATERIALS, PROTECTING CONSTRUCTION IN PROGRESS AND ADJOINING MATERIALS IN PLACE. PROVIDE TEMPORARY, PROTECTIVE COVERINGS WHERE NECESSARY TO ENSURE PROTECTION FROM DAMAGE OR DETERIORATION.
R OTHER L OF THE	47. CONTRACTOR SHALL PERIODICALLY CLEAN AND MAINTAIN COMPLETED CONSTRUCTION ON A REGULAR BASIS. AT THE COMPLETION OF THE PROJECT, PROVIDE A FINAL CLEANING OF ALL SURFACES. POLISH ALL GLASS, BROOM SWEEP EXTERIOR SURFACES, AND VACUUM ALL INTERIOR FLOORS. CONTRACTOR SHALL LEAVE THE PREMISES CLEAN
ITY LINES CESS THAT NG. RARY	AND ORDERLY AND READY FOR OCCUPANCY. 48. CONTRACTOR SHALL DISPOSE OF ALL DEBRIS AND WASTE OFF SITE IN A LEGAL MANNER ON A REGULAR BASIS TO PREVENT EXCESS ACCUMULATION ON SITE.
OCATION VE PLAN	49. CONTRACTOR IS TO INSPECT THE (E) BLDG FOR ANY ADDITIONAL PROBLEMS OR CONCERNS (STRUCTURAL, FINISH, MECHANICAL, ETC.) WHICH ARE NOT REFLECTED IN THE DRAWINGS & NOTATIONS. REPORT
EXISTING IBLE. JURCE.	ANY FINDINGS TO THE ARCHITECT DURING BID PHASE AND BEFORE PROCEEDING WITH WORK.
R	50. ELECTRICAL AND PLUMBING SYSTEMS SHALL BE "DESIGN/BUILD." PERFORMANCE SPECIFICATIONS SHALL BE REVIEWED
E AND CUMENTS.	BY THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK.
CUMENTS. DN. ATERIALS CTURER'S AND	BY THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK.
CUMENTS. DN. ATERIALS CTURER'S	BY THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK. SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATION 1. A PROPERTY WILL BE USED AS IT WAS HISTORICALLY OR BE GIVEN A NEW USE THAT REQUIRES MINIMAL CHANGE TO ITS DISTINCTIVE
CUMENTS. ON. ATERIALS CTURER'S ND HE JOB. C.N.A.	 BY THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK. SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATION 1. A PROPERTY WILL BE USED AS IT WAS HISTORICALLY OR BE GIVEN A NEW USE THAT REQUIRES MINIMAL CHANGE TO ITS DISTINCTIVE MATERIALS, FEATURES, SPACES, AND SPATIAL RELATIONSHIPS. 2. THE HISTORIC CHARACTER OF A PROPERTY WILL BE RETAINED AND PRESERVED. THE REMOVAL OF DISTINCTIVE MATERIALS OR ALTERATION OF FEATURES, SPACES, AND SPATIAL RELATIONSHIPS
CUMENTS. DN. ATERIALS CTURER'S AND HE JOB. C.N.A. PROOF	 BY THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK. SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATION A PROPERTY WILL BE USED AS IT WAS HISTORICALLY OR BE GIVEN A NEW USE THAT REQUIRES MINIMAL CHANGE TO ITS DISTINCTIVE MATERIALS, FEATURES, SPACES, AND SPATIAL RELATIONSHIPS. THE HISTORIC CHARACTER OF A PROPERTY WILL BE RETAINED AND PRESERVED. THE REMOVAL OF DISTINCTIVE MATERIALS OR ALTERATION OF FEATURES, SPACES, AND SPATIAL RELATIONSHIPS THAT CHARACTERIZE A PROPERTY WILL BE AVOIDED. EACH PROPERTY WILL BE RECOGNIZED AS A PHYSICAL RECORD OF ITS TIME, PLACE, AND USE. CHANGES THAT CREATE A FALSE SENSE OF HISTORICAL DEVELOPMENT, SUCH AS ADDING CONJECTURAL FEATURES OF ELEMENTS FROM OTHER HISTORIC PROPERTIES, WILL
CUMENTS. DN. ATERIALS CTURER'S AND HE JOB. C.N.A. PROOF	 BY THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK. SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATION A PROPERTY WILL BE USED AS IT WAS HISTORICALLY OR BE GIVEN A NEW USE THAT REQUIRES MINIMAL CHANGE TO ITS DISTINCTIVE MATERIALS, FEATURES, SPACES, AND SPATIAL RELATIONSHIPS. THE HISTORIC CHARACTER OF A PROPERTY WILL BE RETAINED AND PRESERVED. THE REMOVAL OF DISTINCTIVE MATERIALS OR ALTERATION OF FEATURES, SPACES, AND SPATIAL RELATIONSHIPS THAT CHARACTERIZE A PROPERTY WILL BE AVOIDED. EACH PROPERTY WILL BE RECOGNIZED AS A PHYSICAL RECORD OF ITS TIME, PLACE, AND USE. CHANGES THAT CREATE A FALSE SENSE OF HISTORICAL DEVELOPMENT, SUCH AS ADDING CONJECTURAL FEATURES OF ELEMENTS FROM OTHER HISTORIC PROPERTIES, WILL NOT BE UNDERTAKEN. CHANGES TO A PROPERTY THAT HAVE ACQUIRED HISTORIC SIGNIFICANCE IN THEIR OWN RIGHT WILL BE RETAINED AND
CUMENTS. DN. ATERIALS CTURER'S ND HE JOB. C.N.A. PROOF <u>TIONED</u>	 BY THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK. SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATION A PROPERTY WILL BE USED AS IT WAS HISTORICALLY OR BE GIVEN A NEW USE THAT REQUIRES MINIMAL CHANGE TO ITS DISTINCTIVE MATERIALS, FEATURES, SPACES, AND SPATIAL RELATIONSHIPS. THE HISTORIC CHARACTER OF A PROPERTY WILL BE RETAINED AND PRESERVED. THE REMOVAL OF DISTINCTIVE MATERIALS OR ALTERATION OF FEATURES, SPACES, AND SPATIAL RELATIONSHIPS THAT CHARACTERIZE A PROPERTY WILL BE AVOIDED. EACH PROPERTY WILL BE RECOGNIZED AS A PHYSICAL RECORD OF ITS TIME, PLACE, AND USE. CHANGES THAT CREATE A FALSE SENSE OF HISTORICAL DEVELOPMENT, SUCH AS ADDING CONJECTURAL FEATURES OF ELEMENTS FROM OTHER HISTORIC PROPERTIES, WILL NOT BE UNDERTAKEN. CHANGES TO A PROPERTY THAT HAVE ACQUIRED HISTORIC SIGNIFICANCE IN THEIR OWN RIGHT WILL BE RETAINED AND PRESERVED. DISTINCTIVE MATERIALS, FEATURES, FINISHES AND CONSTRUCTION TECHNIQUES OR EXAMPLES OF CRAFTSMANSHIP THAT CHARACTERIZE
CUMENTS. DN. ATERIALS CTURER'S ND HE JOB. C.N.A. PROOF TIONED TIONED R R PROVIDE S RATE AND ARATION HE PAINT.	 BY THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK. SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATION A PROPERTY WILL BE USED AS IT WAS HISTORICALLY OR BE GIVEN A NEW USE THAT REQUIRES MINIMAL CHANGE TO ITS DISTINCTIVE MATERIALS, FEATURES, SPACES, AND SPATIAL RELATIONSHIPS. THE HISTORIC CHARACTER OF A PROPERTY WILL BE RETAINED AND PRESERVED. THE REMOVAL OF DISTINCTIVE MATERIALS OR ALTERATION OF FEATURES, SPACES, AND SPATIAL RELATIONSHIPS THAT CHARACTERIZE A PROPERTY WILL BE AVOIDED. EACH PROPERTY WILL BE RECOGNIZED AS A PHYSICAL RECORD OF ITS TIME, PLACE, AND USE. CHANGES THAT CREATE A FALSE SENSE OF HISTORICAL DEVELOPMENT, SUCH AS ADDING CONJECTURAL FEATURES OF ELEMENTS FROM OTHER HISTORIC PROPERTIES, WILL NOT BE UNDERTAKEN. CHANGES TO A PROPERTY THAT HAVE ACQUIRED HISTORIC SIGNIFICANCE IN THEIR OWN RIGHT WILL BE RETAINED AND PRESERVED. DISTINCTIVE MATERIALS, FEATURES, FINISHES AND CONSTRUCTION TECHNIQUES OR EXAMPLES OF CRAFTSMANSHIP THAT CHARACTERIZE A PROPERTY WILL BE PRESERVED. DETERIORATED HISTORIC FEATURES WILL RE REPAIRED RATHER THAN REPLACED. WHERE THE SEVERITY OF DETERIORATION REQUIRES REPLACEMENT OF A DISTINCTIVE FEATURE, THE NEW FEATURE WILL MATCH THE OLD IN DESIGN, COLOR, TEXTURE, AND, WHERE POSSIBLE, MATERIALS. REPLACEMENT OF MISSING FEATURES WILL BE
CUMENTS. DN. ATERIALS CTURER'S AND HE JOB. C.N.A. PROOF TIONED R PROVIDE S RATE AND ARATION HE PAINT. E ANY	 BY THE ARCHITECT BEFORE COMMENCEMENT OF THE WORK. SECRETARY OF THE INTERIOR STANDARDS FOR REHABILITATION A PROPERTY WILL BE USED AS IT WAS HISTORICALLY OR BE GIVEN A NEW USE THAT REQUIRES MINIMAL CHANGE TO ITS DISTINCTIVE MATERIALS, FEATURES, SPACES, AND SPATIAL RELATIONSHIPS. THE HISTORIC CHARACTER OF A PROPERTY WILL BE RETAINED AND PRESERVED. THE REMOVAL OF DISTINCTIVE MATERIALS OR ALTERATION OF FEATURES, SPACES, AND SPATIAL RELATIONSHIPS THAT CHARACTERIZE A PROPERTY WILL BE AVOIDED. EACH PROPERTY WILL BE RECOGNIZED AS A PHYSICAL RECORD OF ITS TIME, PLACE, AND USE. CHANGES THAT CREATE A FALSE SENSE OF HISTORICAL DEVELOPMENT, SUCH AS ADDING CONJECTURAL FEATURES OF ELEMENTS FROM OTHER HISTORIC PROPERTIES, WILL NOT BE UNDERTAKEN. CHANGES TO A PROPERTY THAT HAVE ACQUIRED HISTORIC SIGNIFICANCE IN THEIR OWN RIGHT WILL BE RETAINED AND PRESERVED. DISTINCTIVE MATERIALS, FEATURES, FINISHES AND CONSTRUCTION TECHNIQUES OR EXAMPLES OF CRAFTSMANSHIP THAT CHARACTERIZE A PROPERTY WILL BE PRESERVED. DETERIORATED HISTORIC FEATURES WILL RE REPAIRED RATHER THAN REPLACED. WHERE THE SEVERITY OF DETERIORATION REQUIRES REPLACEMENT OF A DISTINCTIVE FEATURE, THE NEW FEATURE WILL MATCH THE OLD IN DESIGN, COLOR, TEXTURE, AND, WHERE POSSIBLE, MATERIALS. REPLACEMENT OF MISSING FEATURES WILL BE SUBSTANTIATED BY DOCUMENTARY AND PHYSICAL EVIDENCE. CHEMICAL OR PHYSICAL TREATMENTS, IF APPROPRIATE, WILL BE UNDERTAKEN USING THE GENTLEST MEANS POSSIBLE. TREATMENTS

- 9. NEW ADDITIONS, EXTERIOR ALTERATIONS, OR RELATED NEW CONSTRUCTION WILL NOT DESTROY HISTORIC MATERIALS. FEAT AND SPATIAL RELATIONSHIPS THAT CHARACTERIZE THE PROPER THE NEW WORK SHALL BE DIFFERENTIATED FROM THE OLD AND BE COMPATIBLE WITH THE HISTORIC MATERIALS, FEATURES, SIZE SCALE AND PROPORTION, AND MASSING TO PROTECT THE INTEG OF THE PROPERTY AND ITS ENVIRONMENT.
- 10. NEW ADDITIONS AND ADJACENT OR RELATED NEW CONSTRUCTION WILL BE UNDERTAKEN IN SUCH A MANNER THAT. IF REMOVED IN FUTURE, THE ESSENTIAL FORM AND INTEGRITY OF THE HISTORIC PROPERTY AND ITS ENVIRONMENT WOULD BE UNIMPAIRED.

FOR COMPLETE TEXT AND GUIDELINES, GO TO: <https://www.nps.gov/tps/standards/rehabilitation.htm>

ARCHITECTURAL REPLACEMENT O MISSING HISTORICAL ELEMENTS

- 1. ALL WORK FOR THIS PROJECT SHALL CONFORM TO THE SECRET THE INTERIOR STANDARDS FOR REHABILITATION. THESE STAND ARE LISTED ON THIS SHEET.
- 2. THE REPLACEMENT OF MISSING HISTORICAL CONSTRUCTION ELEMENTS REQUIRES THE FULL ATTENTION AND COOPERATION (CONTRACTOR. THE CONTRACTOR SHOULD DEVELOP A SYSTEM (PROCESS OF RECORDATION PRIOR TO THE START OF ANY WORK.
- 3. EVERY EFFORT SHALL BE MADE TO REPAIR, RATHER THAN REPLA EXISTING ELEMENTS. SUCH REPAIR MAY INCLUDE REPLACEMENT EXTENSIVELY DETERIORATED OR MISSING ELEMENTS.
- HISTORICAL PHYSICAL AND PICTORIAL DOCUMENTATION, IN ADDIT TO SURVIVING PROTOTYPES, WILL BE THE BASIS FOR ANY HISTOR RESTORATION. MEASURE AND DOCUMENT ALL EXISTING DETAILS PRIOR TO START OF ANY REPAIR OR REPLACEMENT WORK,
- THE USE OF SALVAGED MATERIALS IS STRONGLY ENCOURAGED / MEANS OF REPLACING FEATURES NO LONGER COMMONLY AVAIL THIS OPTION SHALL BE GIVEN THE HIGHEST PRIORITY WHEN IT IS FEASIBLE TO REPAIR A DETERIORATED ELEMENT.
- . CONTRACTOR SHALL DOCUMENT THE LOCATION, ORIENTATION AI ANY OTHER INFORMATION THAT WILL AID IN THE CORRECT REINSTALLATION OF AN ELEMENT PRIOR TO REMOVAL AND STOR OF THAT ELEMENT AS REQUIRED BY THE CONTRACT DOCUMENTS AS MIGHT BE REQUIRED TO ALLOW OTHER WORK TO PROCEED.
- 7. PROTECT ALL EXISTING ELEMENTS DURING ALL PHASES OF CONSTRUCTION WORK.
- 8. CONTRACTOR SHALL PROVIDE HISTORICAL ELEMENT SHOP DRAW AS OUTLINED BELOW.
- 9. CONTRACTOR SHALL MEASURE AND DOCUMENT ON HISTORICAL ELEMENT SHOP DRAWINGS THE "GHOSTING" OF MISSING ELEMEN REQUIRING REPLACEMENT AND THEIR LOCATIONS. THE CONTRAC SHALL ALSO RECORD ON THESE SHOP DRAWINGS ANY OTHER RELEVANT INFORMATION REGARDING THESE MISSING ELEMENTS CAN BE GLEANED FROM THE FIELD. THESE MEASUREMENTS SHA RECORDED ONTO THESE SHOP DRAWINGS AT AN APPROPRIATE S AND SUBMITTED TO THE ARCHITECT FOR REVIEW.
- 10. THE CONTRACTOR SHALL NOTE ON THE HISTORICAL ELEMENT SH DRAWINGS THE MATERIALS OF IN SITU ELEMENTS AND PROPOSE ALTERNATIVE MATERIALS, SHOULD THE IN SITU MATERIALS NO LC BE AVAILABLE.
- 11. THE HISTORICAL ELEMENT SHOP DRAWINGS SHALL SHOW HOW T CONTRACTOR INTENDS TO FABRICATE AND INSTALL THESE ELEM THE ARCHITECT WILL REVIEW THESE SHOP DRAWINGS FOR DESIG INTENT.
- 12. ONCE THE ARCHITECT HAS HAD AN OPPORTUNITY TO REVIEW THESE SHOP DRAWINGS, THE ARCHITECT AND CONTRACTOR SHALL ARRANGE A SPECIAL COORDINATION MEETING TO REVIEW THE INTERPRETATION PROPOSED BY THE ARCHITECT AND THE RECONSTRUCTION METHOD PROPOSED BY THE CONTRACTOR.
- 13. THE ARCHITECT WILL THEN ISSUE THE REVIEWED HISTORICAL ELEMENT SHOP DRAWINGS TO THE CONTRACTOR WITH APPROPRIATE COMMENTS.

	(E) CONSTRUCTION TO REMAIN		- CENT
	(N) 2x WOOD FRAME CONSTRUCTION	1 A1.01	DETA
	(E) CONSTRUCTION TO BE REMOVED	1 A1.01	SECT
	MASONRY WALL		
	CONCRETE WALL	A1.01	ELEV
	CMU WALL	A	
·	LINE ABOVE	D 1 B	INTER ELEV/
	LINE BELOW	C	
	PROPERTY LINE		

ARCHITECTURAL ABBREVIATIONS

	۷	ANGLE	KIT.	KITCHEN
TURES,	@	AT	LAM.	LAMINATE
RTY.	Æ	CENTERLINE	LAV.	LAVATORY
WILL	#	POUND OR	L.P.	LOW POIN
Έ,		NUMBER	M.O.	MASONRY
GRITY	(E)	EXISTING	MAX.	MAXIMUM
	(N)	NEW	MECH.	MECHANIC
	A.F.F.	ABOVE FLOOR FINISH	MTL.	METAL
ON THE	ACOUS.	ACOUSTICAL	MIN.	
C	ADJ.	ADJUSTABLE	N.A.	NOT APPLI
0	AGGR.	AGGREGATE	N.I.C.	NOT IN CO
	ALUM.	ALUMINUM	N.T.S. NO.	NOT TO SO
	APPROX.	APPROXIMATE	NO. 0.C.	ON CENTE
	ARCH.	ARCHITECTURAL	OPNG.	OPENING
	ASPH.	ASPHALT	OPP.	OPPOSITE
-	BM.	BEAM	0.F.O.S.	OUTSIDE F
F	BTWN.	BETWEEN		OF STUD
	BITUM.	BITUMINOUS	o/	OVER
	BLKG.	BLOCKING	O.D.	
	BD.	BOARD	OF.D.	OVERFLO
TARY OF DARDS	BOT.	BOTTOM	PTD.	PAINTED
JARDO	BLDG. CLG.		PR.	PAIR
	CEG. CEM.	CEILING CEMENT	PART.	PARTITION
	CEM. CER.	CERAMIC	PERM.	
OF THE	CLR.	CLEAR	PLAS. PL.	PLASTER PLATE
OR	CLO.	CLOSET	PLUMB.	PLUMBING
ζ.	COL.	COLUMN	PLYWD.	PLYWOOD
	CONC.	CONCRETE	PT.	POINT
ACE,	CONT.	CONTINUOUS	PREFIN.	PREFINISH
IT OF	CORR.	CORRIDOR	P.T.D.F.	PRESSURE
	DTL.	DETAIL		DOUGLAS
	DIA.	DIAMETER	P.B.O.	PROVIDED
ITION	DIM.	DIMENSION	Р	BY OWNEF RADIUS
RIC	DR. D.H.	DOOR DOUBLE HUNG	R. R.W.L.	RADIUS RAIN WATE
S	D.H. DN	DOUBLE HUNG		LEADER
	DWG.	DRAWING	REF.	REFRIGER
AS A	EA.	EACH	REINF.	REINFORC
_ABLE.	ELEC.	ELECTRICAL	REQ.	REQUIRED
SNOT	ELEV.	ELEVATION	R.D.	ROOF DRA
	_	/ ELEVATOR	RM.	ROOM
	EQ.	EQUAL	R.O.	ROUGH OF
AND	E. J.	EXPANSION JOINT	S.S.D.	SEE STRU
	EXT. F. O. C.	EXTERIOR FACE OF	SHT.	SHEET
RAGE	F. U. U.	CONCRETE	SMACNA	SHEET ME
SOR	F. O. F.	FACE OF FINISH		AIR COND
	F. O. S.	FACE OF STUD		CONTRAC [®] NATIONAL
	FIN.	FINISH		ASSOCIAT
	F.E.	FIRE	SIM.	SIMILAR
		EXTINGUISHER	S.H.	SINGLE HU
WINGS	FLR.	FLOOR	S.C.	SOLID COF
	F. D.	FLOOR DRAIN	SPEC.	SPECIFICA
	FLUOR. FT.	FLUORESCENT FOOT OR FEET	SQ.	SQUARE
	FT. FTG.	FOOTING	S.S.	STAINLESS
NTS	F.A.U.	FORCED AIR UNIT	STOR.	STORAGE
ACTOR	FDN.	FOUNDATION	STRUCT.	STRUCTUR
_	FURR.	FURRING	SUSP. SYM.	SUSPENDE SYMBOL
S THAT	GALV.	GALVANIZED	TEL.	TELEPHON
ALL BE	GA.	GAUGE	TOI.	TOILET
SCALE	GL.	GLASS	T.& G.	TONGUE
	GYP.	GYPSUM		AND GROC
HOP	HT.	HEIGHT	Т.О.	TOP OF
	H.P.		T.O.C.	TOP OF CL
- .ONGER	H.C.		T.O.W.	TOP OF W
	H.B. HR.	HOSE BIBB HOUR	TYP.	
	HR. INSUL.	INSULATION	U.O.N.	UNLESS OTHERWIS
THE	INSUL. INT.	INTERIOR	VERT.	VERTICAL
MENTS.	I.D.	INSIDE DIAMETER	VEST.	VESTIBULE
IGN			W.C.	WATER CL
			W/	WITH
			W/O	WITHOUT
HESE			W/D	

ARCHITECTURAL SYMBOLS

TER LINE	A	DOOR TYPE	\sim
AIL	×××>	WINDOW TYPE	\bigcirc
	X	WALL TYPE	$\langle x \rangle$
TION	• 0'-0"	ELEVATION POINT	
/ATION	•	DATUM LAYOUT POINT	$\bigcirc 1$
RIOR /ATION	• ● ^{1ST FLR.} 0'-0"	ELEVATION LAYOUT POINT	0'-0'

WD.

	LAMINATE
	LAVATORY
	LOW POINT
	MASONRY OPENING
4.	MAXIMUM MECHANICAL
1.	MECHANICAL
	MINIMUM
	NOT APPLICABLE
	NOT IN CONTRACT
	NOT TO SCALE NUMBER
	ON CENTER
Э.	OPENING
	OPPOSITE
.S.	OUTSIDE FACE
	OF STUD OVER
	OUTSIDE DIAMETER
	OVERFLOW DRAIN
	PAINTED
	PAIR PARTITION
1.	PERMANENT
	PLASTER
	PLATE
	PLUMBING
′D.	PLYWOOD
IN.	POINT PREFINISHED
	PRESSURE TREATED
	DOUGLAS FIR
•	PROVIDED BY OWNER
	RADIUS
	RAIN WATER
	LEADER REFRIGERATOR
=.	REINFORCED
•	REQUIRED
	ROOF DRAIN
	ROOM
	ROUGH OPENING SEE STRUCTURAL
•	DRAWINGS
	SHEET
NA	SHEET METAL AND AIR CONDITIONING
	CONTRACTORS'
	NATIONAL
	ASSOCIATION SIMILAR
	SINGLE HUNG
	SOLID CORE
	SPECIFICATION
	SQUARE STAINLESS STEEL
	STORAGE
	STRUCTURAL
	SUSPENDED
	SYMBOL
	TELEPHONE TOILET
	TONGUE
	AND GROOVE
	TOP OF
/.	TOP OF CURB TOP OF WALL
<i>.</i>	TYPICAL
l .	UNLESS
	OTHERWISE NOTED
	VERTICAL VESTIBULE
	WATER CLOSET
	WITH
	WITHOUT
	WOOD



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GENERAL NOTES

PROJ. NO. 2016 - 105 SCALE NO SCALE 8 JUNE 2017 DATE PHASE SD DRAWN LK CHECKED

NO. DATE REVISION 20 OCT 2017 PERMIT SUBMITTAL 20 NOV 2017 PERMIT SET

REVISION

—–— COLUMN GRID

KEYNOTE

CEILING

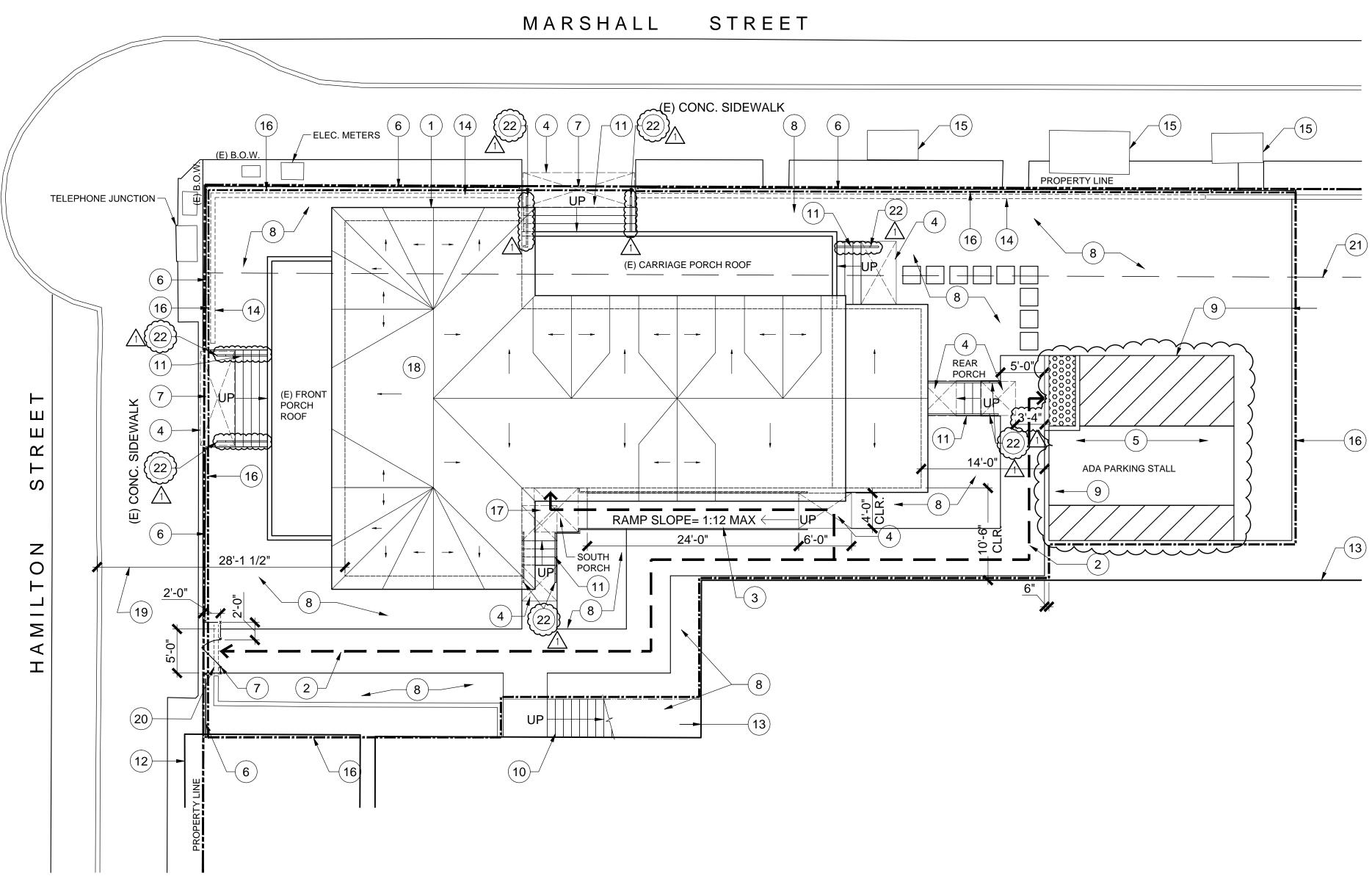
HEIGHT



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- PROPERTY LINES, EXISTING ADJACENT 1. STRUCTURE LOCATION, SITE FEATURES, CONTOURS, PROPOSED ROADWAY & SPOT ELEVATIONS ARE BASED ON A SURVEY PREPARED BY BKF ENGINEERS, DATED 7 JULY 2017.
- 2. SETBACKS PER REDWOOD CITY ZONING CODE, ARTICLE 52, "P" DISTRICT (DOWNTOWN PRECISE PLAN): HAMILTON STREET (FRONT SETBACK): 0' MIN. / 0' MAX. MARSHALL STREET (SIDE SETBACK): 0' MIN. / 10' MAX.
- 3. DRAWING SHOWS PROPOSED "RECEIVER" SITE AT 701 HAMILTON ST. "DONOR" SITE IS APPROXIMATELY ONE HALF BLOCK AWAY, AT 627 HAMILTON ST.
- SEE CIVIL DWGS FOR GRADING AND 4. DRAINAGE WORK.
- SEE CIVIL DWGS FOR UTILITY POINTS OF 5. CONNECTION.
- SEE LANDSCAPE DWGS FOR PROPOSED 6. (N) PLANTED AREAS, SIDEWALKS AND OTHER SITE FEATURES.



- DISCONNECT & CAP (E) UTILITIES @ 7. DONOR SITE BEFORE MOVE.
- INSTALL CONSTRUCTION FENCING 8. AROUND DONOR SITE FOLLOWING **RELOCATION OF BLDG. USE DRIVEN-**POLE CHAINLINK FENCING STARTING @ NW CORNER OF PARKING LOT, THEN ALONG BACK OF WALK TO SOUTH PROPERTY LINE, THEN EAST TO (E) CMU FENCE. A PAIR OF 6'-0" WIDE INSWING GATES TO ALIGN W/(E) CURB CUT.
- **BUILDING SEPARATION NOTES:** 9. - WHEN LATHROP HOUSE & COURT-HOUSE ANNEX ARE SEPARATED BY 10'-0" OR MORE, NO PROTECTION OF OPENINGS IS REQUIRED. - SEPARATION DISTANCE IS 10'-6". - LATHROP HOUSE OPENINGS FACING THE ANNEX ARE LESS THAN MAX. PERMITTED 25% OF EXTERIOR WALL

KEY NOTES

- (1) RELOCATED (E) BUILDING.
- (2) (N) ACCESSIBLE PATH OF TRAVEL.
- (3) (N) ACCESSIBLE RAMP W/HANDRAILS.
- (4) (N) LEVEL LANDING AT TOP & BOTTOM OF STAIRS / RAMP.
- (5) (N) VAN-ACCESSIBLE PARKING SPACE SEE CIVIL DWGS. FOR DIMS & DETAILS
- (6) (N) FENCING ALONG INSIDE OF PROPERTY LINE
- (7) {(N) EMERGENCY EXIT GATE @ (N) } FENCE
- (N) LANDSCAPED AREA. (8)
- (9) EDGE OF (N) PARKING AREA.
- (10) (E) EXIT STAIR FROM ADJACENT (E) BUILDING.

- (11) (N) EXTERIOR STAIRS W / HANDRAILS.
- (12) (E) PUBLIC TOILETS.
- (13) (E) ANNEX.
- (14) REMOVE (E) CURB WITHIN LIMIT OF WORK
- (15) (E) ELECTRICAL VAULT TO REMAIN.
- (16) APPROX. LIMIT OF WORK.
- (17) SEE A-2.01 FOR ENLARGED PLAN VIEW OF STAIR & RAMP TOP LANDINGS.
- (18) CHECK INTEGRITY OF FLASHING & ROOFING AFTER MOVE; PROVIDE DOCUMENTATION PRIOR TO REPAIR OF ANY DAMAGE.
- (19) REQ'D. FRONT SETBACK TO MATCH (E) FRONT SETBACK AT DONOR SITE.
- (20) REMOVE (E) CURB AT GATE.
- (21) SIDE YARD SETBACK 10' MAX.
- (22) HANDRAIL EXTENSION /1



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LATHROP HOUSE

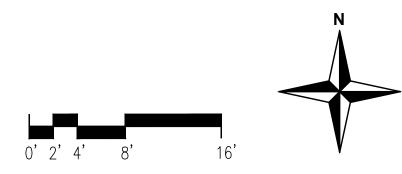
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SITE PLAN PROPOSED

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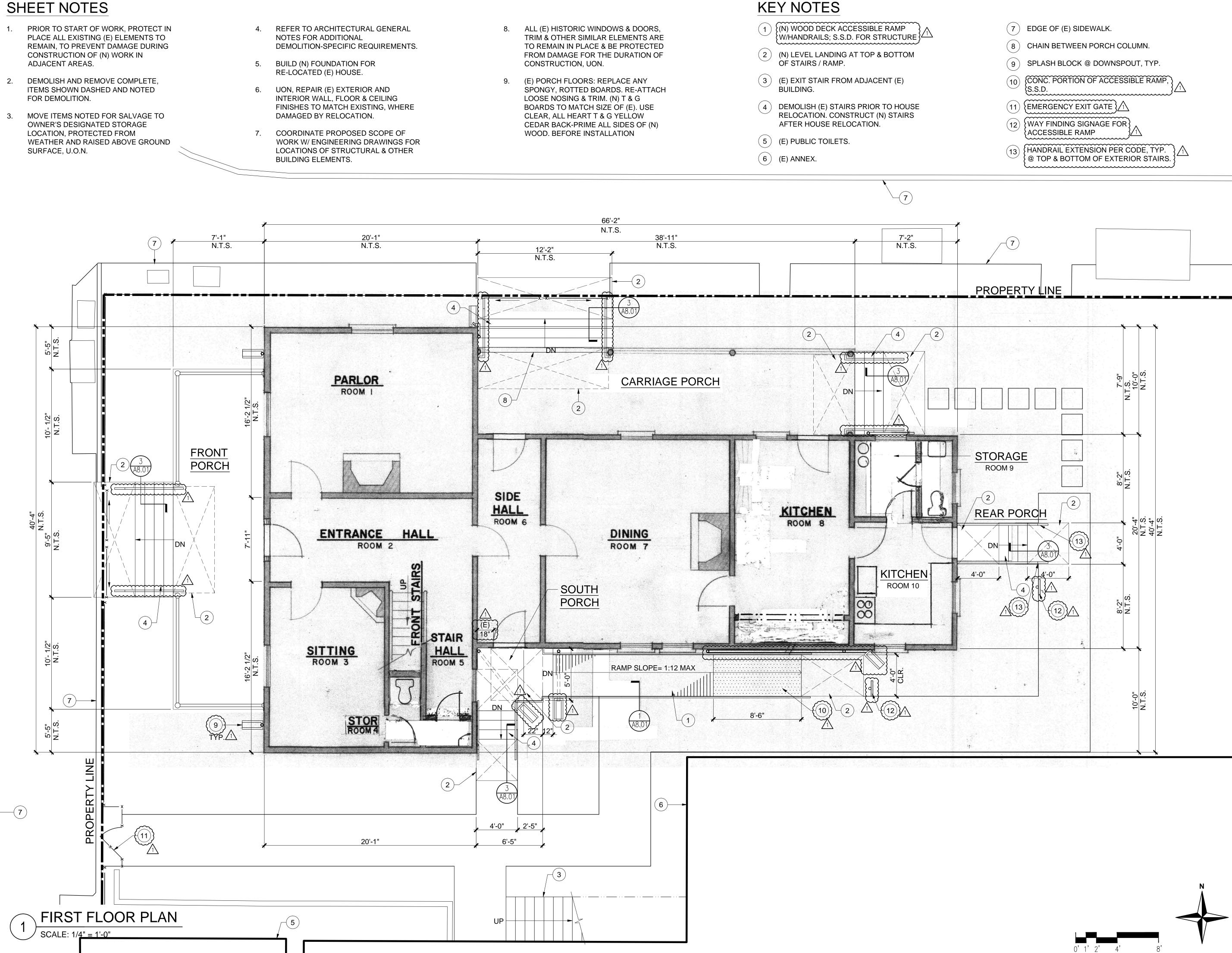


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- PRIOR TO START OF WORK, PROTECT IN PLACE ALL EXISTING (E) ELEMENTS TO REMAIN, TO PREVENT DAMAGE DURING CONSTRUCTION OF (N) WORK IN ADJACENT AREAS.
- DEMOLISH AND REMOVE COMPLETE, ITEMS SHOWN DASHED AND NOTED FOR DEMOLITION.
- MOVE ITEMS NOTED FOR SALVAGE TO OWNER'S DESIGNATED STORAGE LOCATION, PROTECTED FROM SURFACE, U.O.N.

- NOTES FOR ADDITIONAL
- **BUILD (N) FOUNDATION FOR** RE-LOCATED (E) HOUSE.
- UON, REPAIR (E) EXTERIOR AND **INTERIOR WALL, FLOOR & CEILING** DAMAGED BY RELOCATION.
- COORDINATE PROPOSED SCOPE OF LOCATIONS OF STRUCTURAL & OTHER BUILDING ELEMENTS.









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FLOOR PLAN

FIRST

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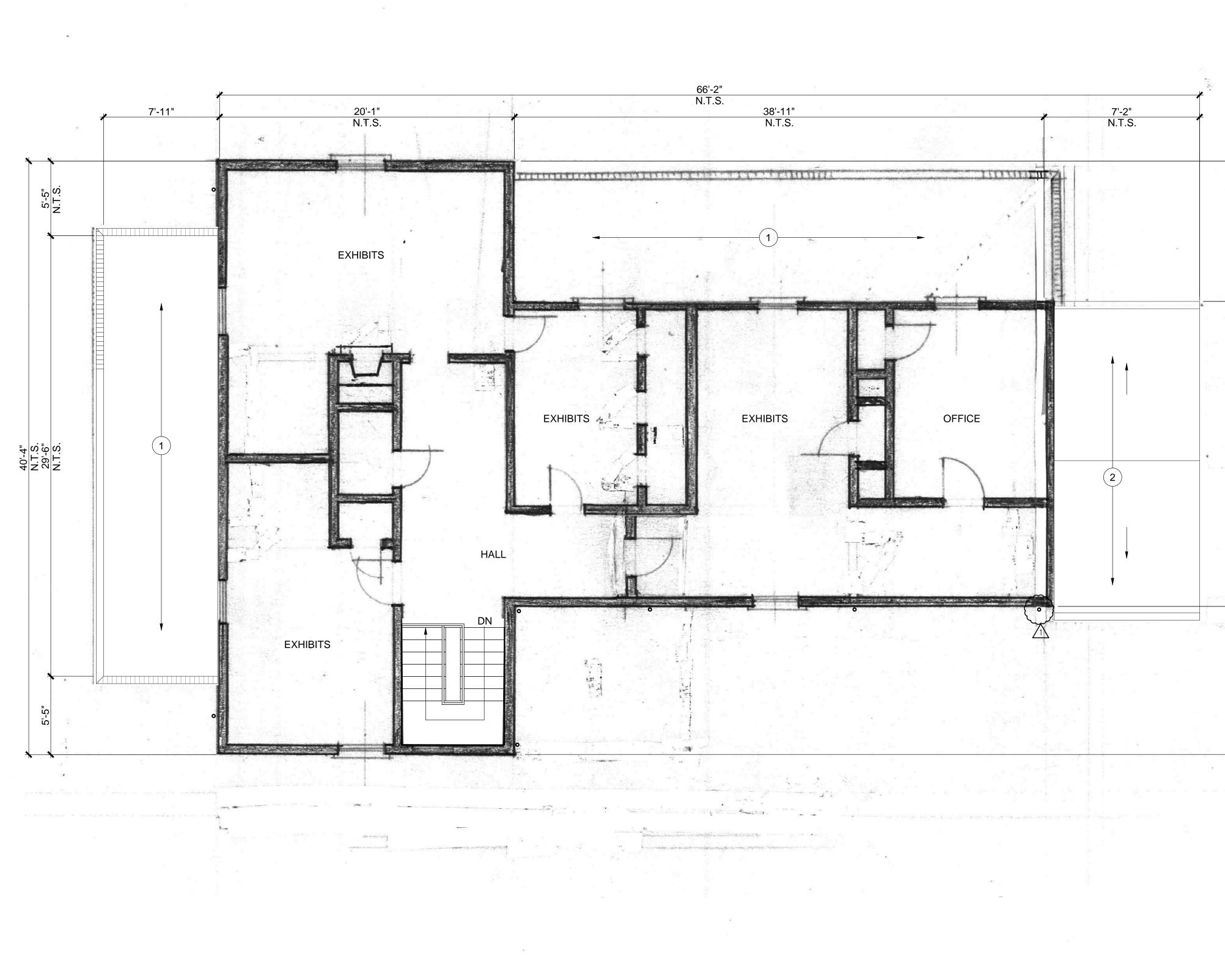
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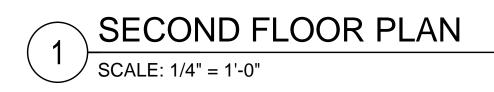
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- 4. REFER TO ARCHITECTURAL GENERAL NOTES FOR ADDITIONAL DEMOLITION-SPECIFIC REQUIREMENTS.
- BUILD (N) FOUNDATION FOR 5. RE-LOCATED (E) HOUSE.
- UON, REPAIR (E) EXTERIOR AND 6. INTERIOR WALL, FLOOR & CEILING FINISHES TO MATCH EXISTING, WHERE DAMAGED BY RELOCATION.
- COORDINATE PROPOSED SCOPE OF 7 WORK W/ ENGINEERING DRAWINGS FOR LOCATIONS OF STRUCTURAL & OTHER BUILDING ELEMENTS.



30 - E



ALL (E) HISTORIC WINDOWS & DOORS, 8. **TRIM & OTHER SIMILAR ELEMENTS ARE** TO REMAIN IN PLACE & BE PROTECTED FROM DAMAGE FOR THE DURATION OF CONSTRUCTION, UON.

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KEY NOTES

d a

- (1) (E) PORCH ROOF, CHECK INTEGRITY OF FLASHING & ROOF FOR DAMAGE AFTER MOVE. REPAIR AS REQUIRED
- (2) (E) ROOF OVER 1ST FLOOR PANTRY & STORAGE ROOM. CHECK INTEGRITY OF FLASHING & ROOF FOR DAMAGE AFTER MOVE. REPAIR AS REQUIRED



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SECOND

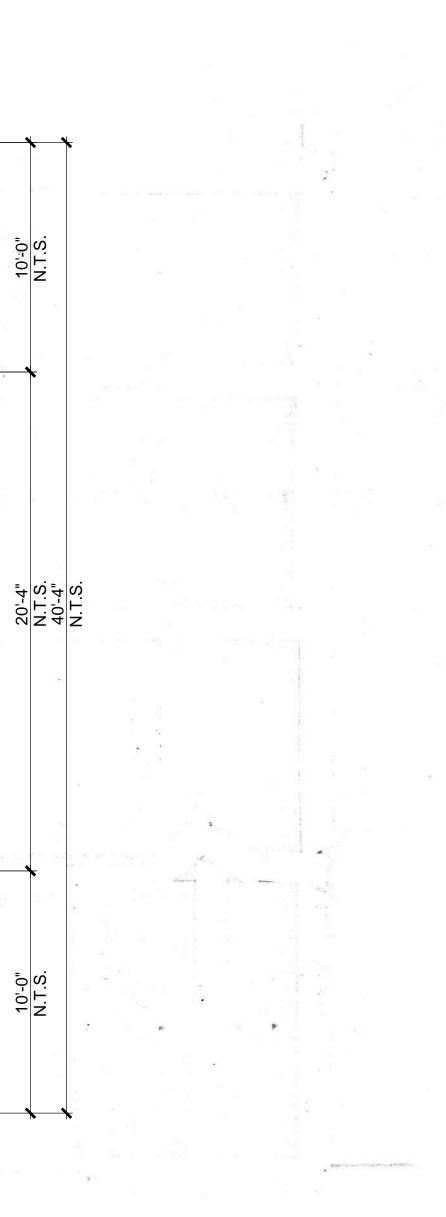
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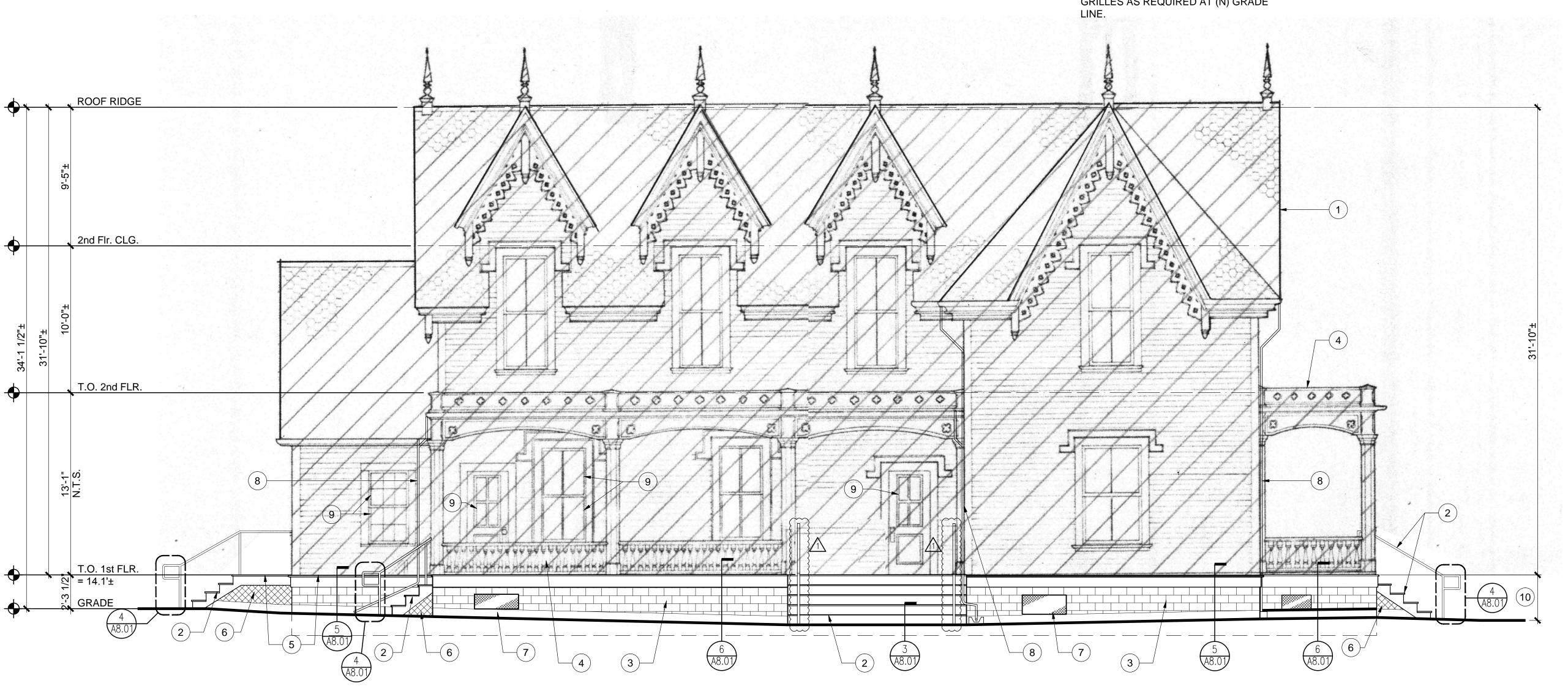
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KEY NOTES

- (1) RELOCATED (E) BUILDING.
- (2) DEMOLISH (E) EXTERIOR STAIRS PRIOR TO HOUSE RELOCATION. CONSTRUCT (N) STAIRS W/ HANDRAIL (3'-0" HIGH) @ RECEIVER SITE. S.S.D.

(3)AT DONOR SITE: REMOVE & SALVAGE (E) STAMPED METAL PANELS & FOUNDATION VENT **GRILLES AT FOUNDATION CRIPPLE** WALL. LABEL EACH PANEL & GRILL AND PROVIDE DRAWING SHOWING **RE-INSTALLATION IN ORIGINAL** LOCATION.

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- (4) (E) WATER TABLE, PORCH, RAILING & ROOF TO REMAIN: PROTECT IN PLACE.
- (5) ALIGN (N) LANDING W/ (E) FINISH FLOOR INSIDE HOUSE.
- (6) REDWOOD LATTICE SCREEN.
- (7)**REINSTALL (E) GRILLES INTO OPENINGS** ON ALL FOUR ELEVATIONS, TO EXACTLY MATCH SIZE & LOCATION OF (E) OPENINGS INTO CRAWL SPACE AT DONOR SITE. TYPICAL OPENING ONLY SHOWN.
- DOWNSPOUT W/ SPLASH BLOCK. (8)
- (9) INSTALL TEMPERING FILM @ ALL PANES OF GLASS WHERE NOTED ON WINDOW/ DOOR, IF NOT (E) SAFETY GLASS.
- (10) MATCH FRONT PORCH HEIGHT ABOVE GRADE @ SIDEWALK WITH (E) @ DONOR SITE.



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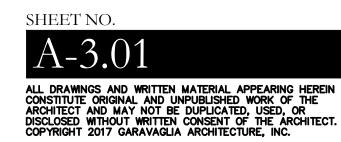
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EXTERIOR

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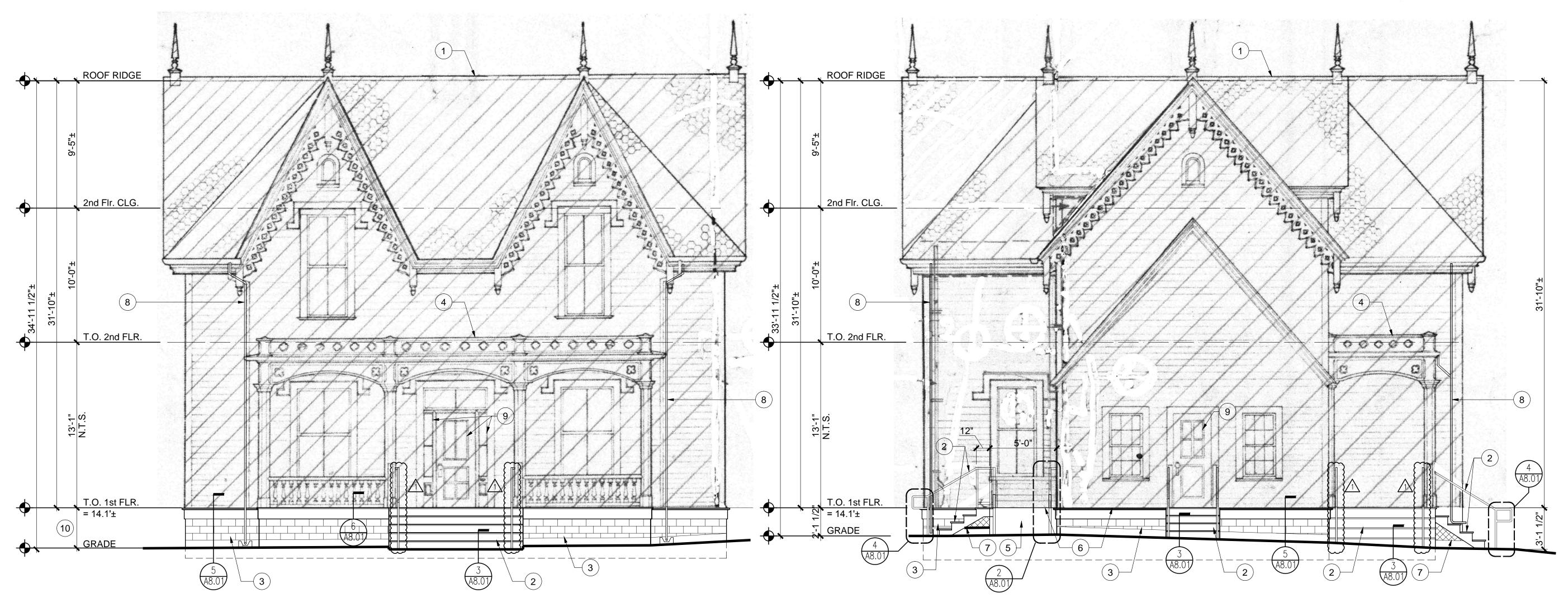
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KEY NOTES

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- (E) WATER TABLE, PORCH, RAILING & (4) ROOF TO REMAIN; PROTECT IN PLACE. NOTE THAT (E) PORCH FLOOR IS APPROX. 5" BELOW (E) FINISH FLOOR INSIDE HOUSE. VERIFY IN FIELD.
- (5) (N) ACCESSIBLE RAMP W/HANDRAILS.
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- (10) MATCH FRONT PORCH HEIGHT ABOVE GRADE @ SIDEWALK WITH (E) @ DONOR SITE.



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EXTERIOR

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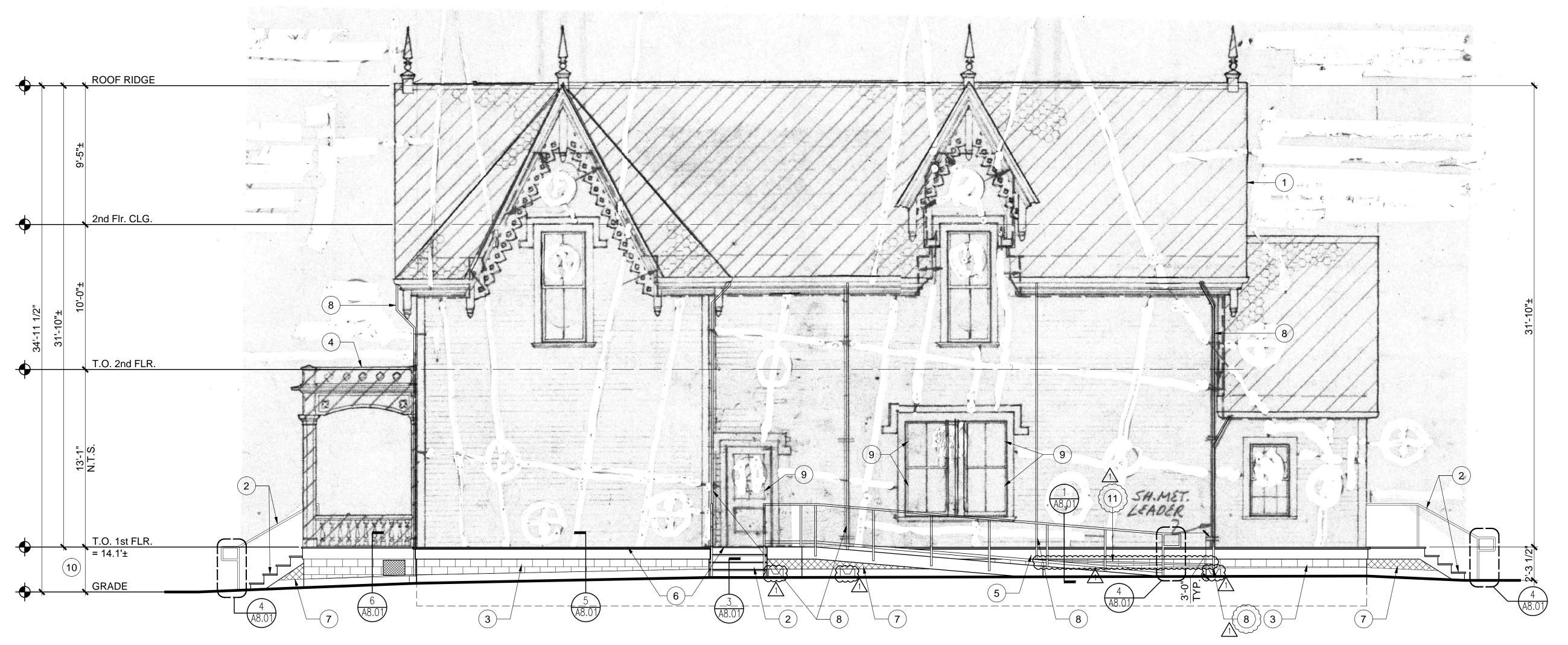




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- (10) MATCH FRONT PORCH HEIGHT ABOVE GRADE @ SIDEWALK WITH (E) @ DONOR SITE.
- {CONNECT RWL TO ADJACENT BELOW (11)WATER TABLE TREIM



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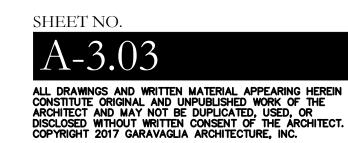


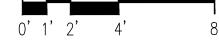
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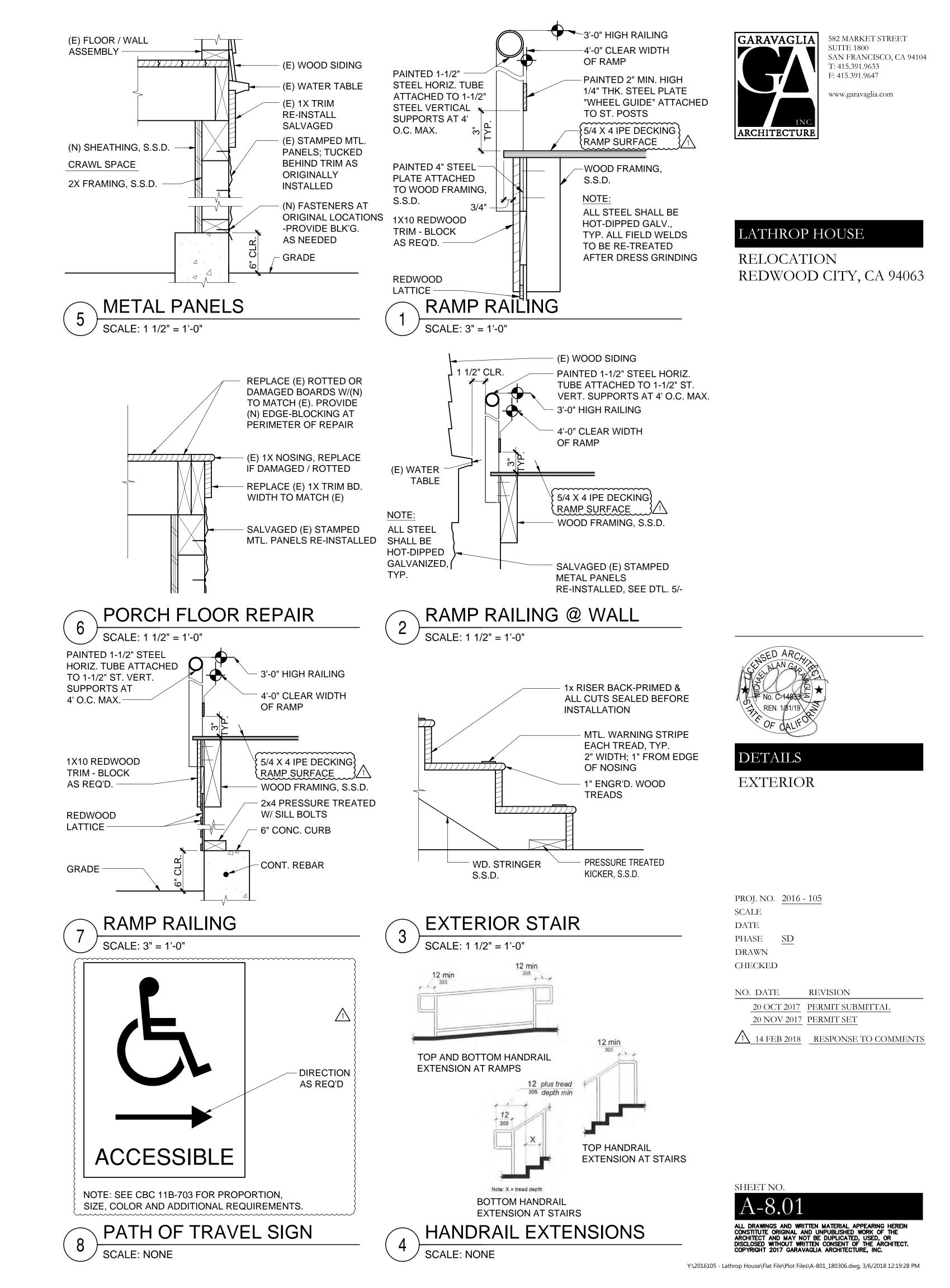
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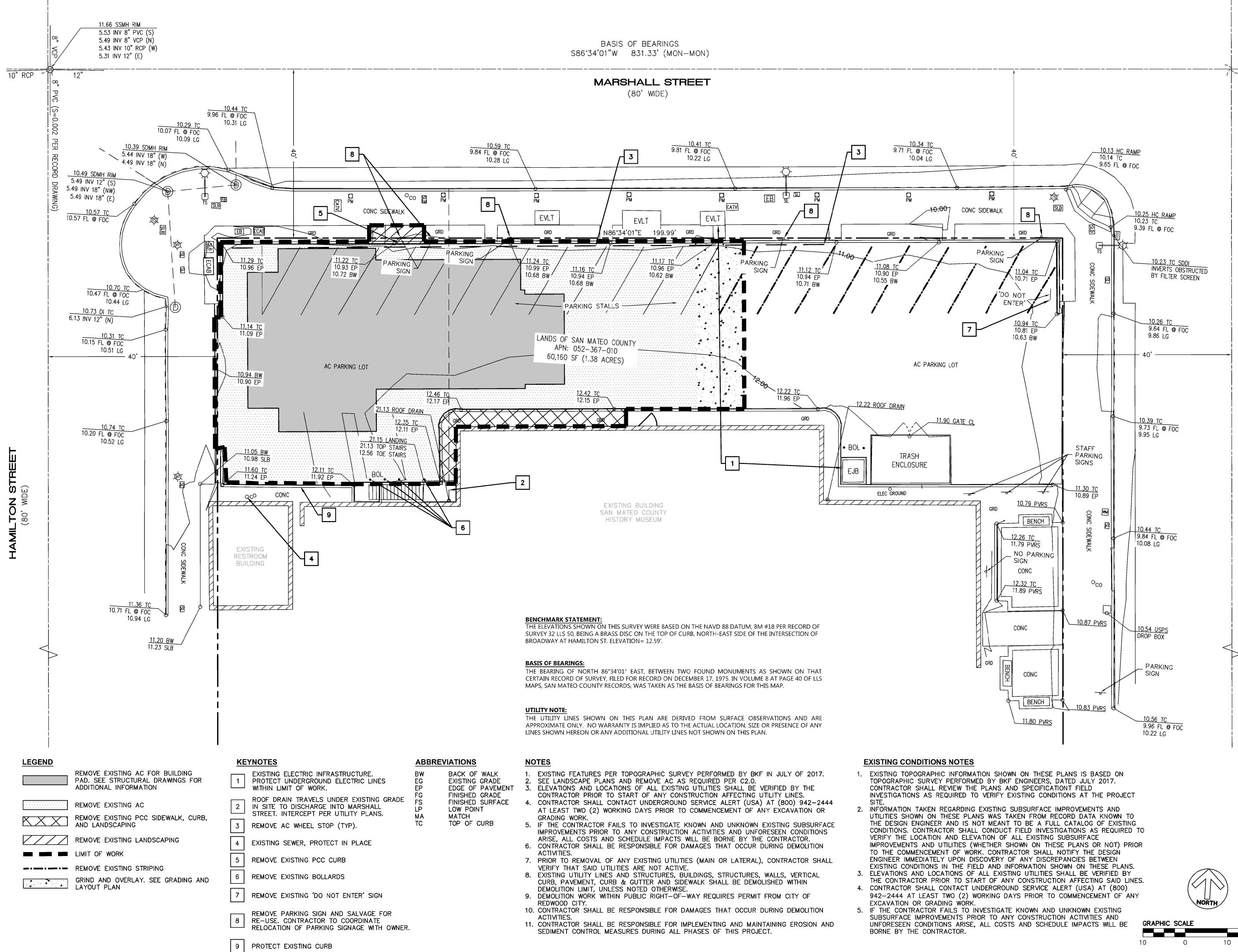
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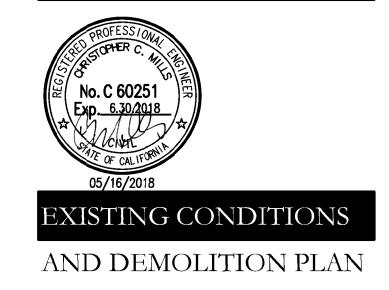


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LATHROP HOUSE

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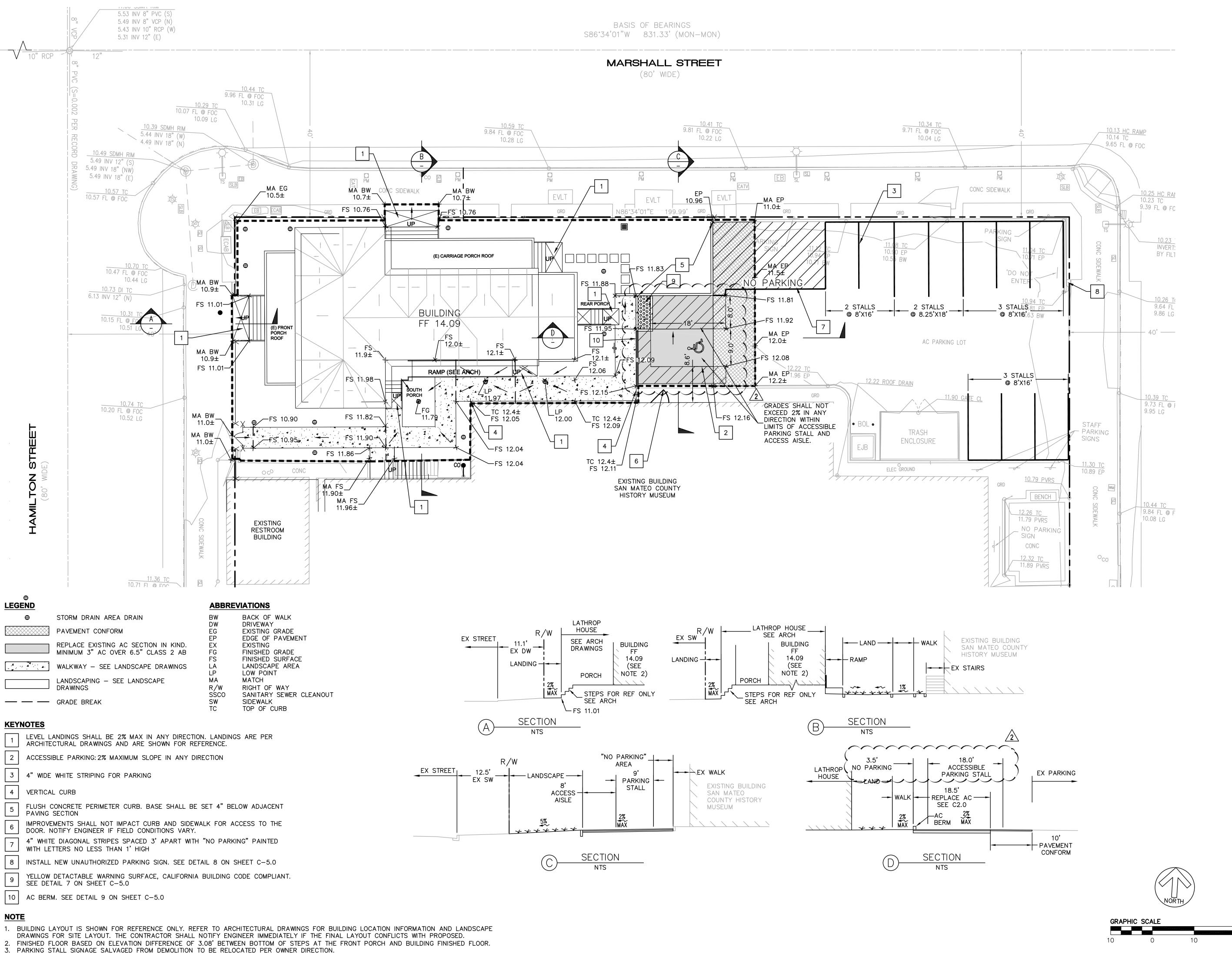


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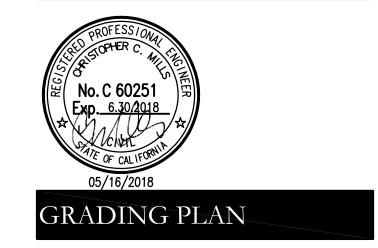
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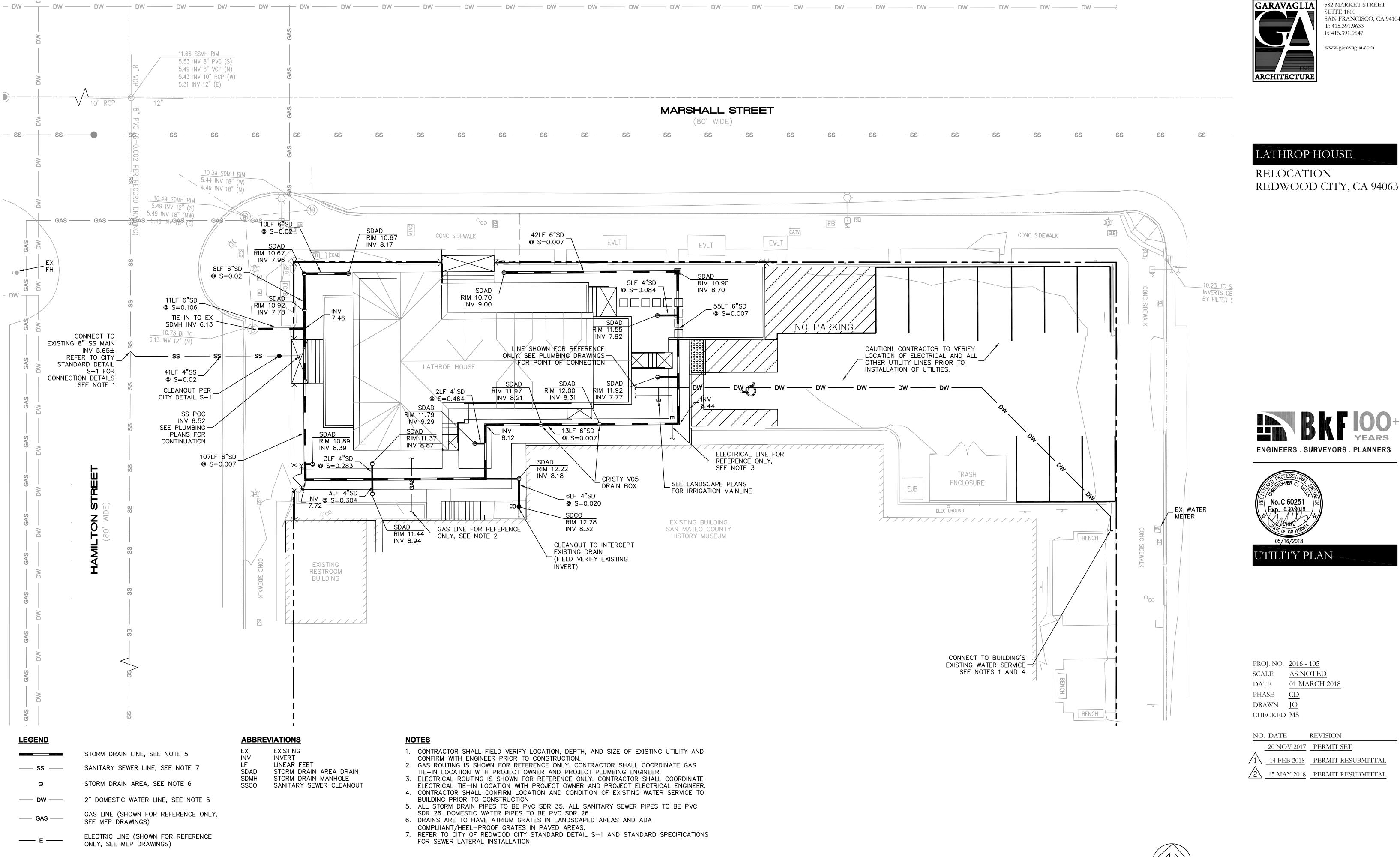




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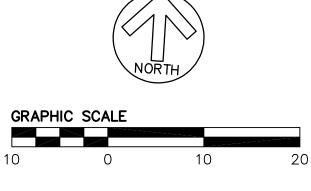
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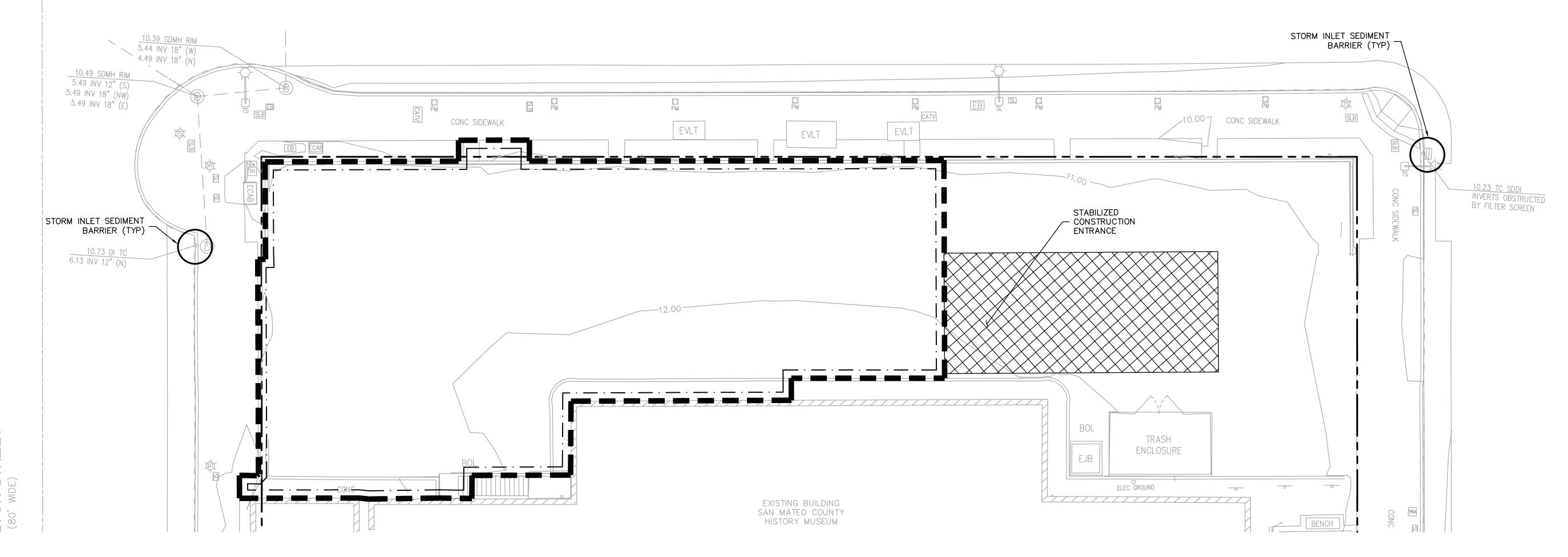




SAN FRANCISCO, CA 94104







LEGEND

LIMIT OF WORK

- · - · FIBER ROLL

 $\sim \sim \sim \sim$ STABILIZED CONSTRUCTION ENTRANCE

STORM INLET SEDIMENT BARRIER

EROSION CONTROL NOTES

- 1. TEMPORARY EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN WHICH INTERFERE WITH THE WORK SHALL BE RELOCATED OR MODIFIED AS AND WHEN THE INSPECTOR SO DIRECTS AS THE WORK PROGRESSES TO MEET "AS GRADED" CONDITIONS.
- 2. ALL LOOSE SOIL AND DEBRIS SHALL BE REMOVED FROM THE STREET AND PAVED AREAS UPON STARTING OPERATIONS AND PERIODICALLY THEREAFTER AS DIRECTED BY THE INSPECTOR.
- 3. ALL FILLS SHALL BE GRADED TO PROMOTE DRAINAGE AWAY FROM THE EDGES OF THE FILL.
- 4. ALL UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS FROM THE BOTTOM TO THE TOP WITH A DOUBLE ROW OF SANDBAGS PRIOR TO BACKFILL. STORM AND SEWER TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF SANDBAGS EXTENDING UPWARD, TO WITHIN TWO SANDBAGS FROM THE GRADED SURFACE OF THE STREET. SANDBAGS ARE TO BE PLACED WITH THE ALTERNATE HEADER AND STRETCHER COURSES. THE INTERVALS PRESCRIBED BETWEEN SANDBAG BLOCKING SHALL DEPEND ON THE SLOPE OF THE GROUND SURFACE. BUT NOT EXCEED THE FOLLOWING:

RADE OF THE STREET	INTERV
LESS THAN 2%	AS
2% TO 4%	10
4% TO 10%	50 F
OVER 10%	25 F

- 5. AFTER SEWER AND UTILITY TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCHES SHALL BE MOUNDED SLIGHTLY TO PREVENT CHANNELING OF WATER IN THE TRENCH AREA. CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTERLINE OF A CROWNED STREET.
- 6. APPROVED EROSION PREVENTATIVE DEVICES SHALL BE PROVIDED AND MAINTAINED DURING THE RAINY SEASON OF OCTOBER 1 THROUGH MAY 31. SAID DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY.
- 7. EROSION CONTROL DEVICES SHALL BE STOCKPILED IN PARKWAYS AT INTERVALS SHOWN ON THE EROSION CONTROL PLAN, READY TO BE PLACED IN POSITION WHEN RAIN IS FORECAST OR WHEN DIRECTED BY THE INSPECTOR.
- 8. THE CONTRACTOR SHALL PROVIDE A "STANDBY EMERGENCY CREW" WHICH SHALL BE ALERTED BY THE CONSTRUCTION MANAGER, CITY OR CONTRACTOR TO PERFORM EMERGENCY WORK DURING RAINSTORMS.
- 9. ALL CUT AND FILL SLOPES GREATER THAN 1 VERTICAL TO 3 HORIZONTAL SHALL BE COVERED WITH 10 MIL PLASTIC SHEETING HELD IN PLACE WITH SANDBAGS (UNLESS PLANTED OR HYDRO-SEEDED).
- 10. ALL TRUCK TIRES SHALL BE CLEANED PRIOR TO EXITING THE PROPERTY. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
- 11. IF NO WORK HAS PROGRESSED FOR A PERIOD OF 6 WEEKS, FINAL DRAINAGE AND EROSION CONTROL IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH AN APPROVED WINTERIZATION PLAN.
- 12. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- 13. CONTRACTOR IS RESPONSIBLE FOR PREVENTING SEDIMENT FROM LEAVING THE SITE AND ENTERING THE DOWNSTREAM DRAINAGE SYSTEM. THIS PLAN MAY NOT COVER ALL SITUATIONS THAT ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. CONTRACTOR SHALL UPDATE PLANS TO REFLECT CHANGING SITE CONDITIONS AND MONITOR EROSION CONTROL EFFECTIVENESS. BASIN AND TRAP SIZES AND ELEVATIONS MAY BE ADJUSTED AS LONG AS THE MINIMUM AREA AND DEPTH FOR SEDIMENT SETTLING AND STORAGE ARE NOT REDUCED. ALL EXISTING TEMPORARY OR PERMANENT CATCH BASINS SHALL USE ONE OF THE SEDIMENT BARRIERS SHOWN.
- 14. PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES. 15. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE
- MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE OR RECYCLED FOR USE AS FILL. 16. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION
- OF RAINWATER AND DISPERSAL BY WIND.
- 17. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEETFLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.

- AS REQUIRED 100 FEET
- FEET
- FEET

- 18. FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
- 19. THE CONTRACTOR WILL BE LIABLE FOR ANY AND ALL DAMAGES TO PUBLICLY AND/OR PRIVATELY OWNED AND MAINTAINED ROADS CAUSED BY CONTRACTOR'S GRADING ACTIVITIES. AND WILL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIAL SPILLED ON ANY PUBLIC ROAD ON THE HAUL ROUTE. ADJACENT PUBLIC ROADS SHALL BE CLEANED AT THE END OF EACH WORKING DAY OR AS REQUIRED BY THE CITY. CONTRACTOR SHOULD PROPERLY DOCUMENT EXISTING CONDITIONS OF PUBLIC AND PRIVATE STREETS SUBJECT TO SUCH DAMAGE.
- 20. APPROVED PROTECTIVE MEASURES AND TEMPORARY DRAINAGE PROVISIONS SHALL BE PROVIDED TO PROTECT ADJOINING PROPERTIES DURING THE GRADING PROJECT.
- 21. GRADING SCHEDULE SHALL BE SUBMITTED FOR APPROVAL TO THE CITY BY THE DATE INDICATED BY THE CITY ENGINEER.
- 22. EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED AND COMPLETED PRIOR TO OCTOBER 1. RAINY SEASON IS BETWEEN OCTOBER 1 THROUGH MAY 31. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE OPERABLE YEAR ROUND.
- 23. THE SURFACE OF ALL CUT SLOPES MORE THAN 4 FEET IN HEIGHT, AND FILL SLOPES MORE THAN 3 FEET IN HEIGHT, SHALL BE PROTECTED AGAINST EROSION BY PLANTING WITH GRASS OR GROUNDCOVER PLANTS.
- 24. SEED MIX FOR REVEGETATION AND HYDROSEEDING SHALL BE NORTHERN CALIFORNIA COVER MIX BY ACBRIGHT OR EQUAL: 30% BLUE WILD RYE, 30% MEADOW BARLEY, 20% ZORRO FESCUE, 10% PURPLE NEEDLE GRASS, AND 10% CALIFORNIA NATIVE WILDFLOWERS APPLY AT 40 POUNDS PER ACRED MINIMUM. THE HYDROSEED MIX SHALL BE APPLIED IN ADVANCE TO ALLOW VEGETATION TO BE FULLY ESTABLISHED BY OCTOBER 1ST. PLANTED SLOPES SHALL BE WATERED AND MAINTAINED UNTIL A COVER SATISFACTORY TO THE CITY ENGINEER IS ESTABLISHED.
- 25. STUBBED OUT ENDS OF PARTIALLY COMPLETED SUBDRAINS SHALL BE WRAPPED WITH AN APPROVED FABRIC TO PREVENT SOIL AND DEBRIS FROM ENTERING THE PIPE.
- 26. BORROW AND TEMPORARY STOCKPILES SHALL BE PROTECTED WITH APPROPRIATE EROSION CONTROL MEASURES (FIBER ROLLS, ETC.) OR COVERED WITH VISQUEEN TO ENSURE SILT DOES NOT LEAVE THE SITE OR ENTER THE STORM DRAIN SYSTEM.
- 27. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
- 28. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
- 29. VACUUM SAW-CUT SLURRY IMMEDIATELY AND REMOVE FROM SITE. DO NOT ALLOW SAW-CUT SLURRY TO ACCUMULATE ON SURROUNDING PAVEMENT OR ENTER THE STORM WATER CONVEYANCE SYSTEM.
- 30. REMOVE ALL DIRT/MUD, GRAVEL, RUBBISH, REFUSE AND GREEN WASTE FROM THE SIDEWALK, STREET PAVEMENT, AND STORM DRAIN SYSTEM ADJOINING THE PROJECT SITE DAILY AND PRIOR TO RAIN. CLEAN UP LEAKS, DRIPS AND SPILLS IMMEDIATELY. DURING WET WEATHER, AVOID DRIVING VEHICLES OFF PAVED AREAS AND OTHER OUTDOOR WORK AREAS AND ONTO PAVED PUBLICLY ACCESSIBLE RIGHT-OF-WAY.
- 31. SITE DE-WATERING OPERATIONS SHALL BE DESIGNED TO PREVENT THE DISCHARGE OF ANY SEDIMENT, DEBRIS OR OTHER POLLUTANTS TO THE MUNICIPAL STORM WATER CONVEYANCE SYSTEM.
- 32. ALL SEDIMENT, EROSION AND OTHER POLLUTION PREVENTION CONTROLS SHALL BE IMPLEMENTED PRIOR TO START OF CONSTRUCTION. MAINTAINED DURING CONSTRUCTION TO PROVIDE ADEQUATE PROTECTION AND REMOVED AT THE END OF CONSTRUCTION.



GARAVAGLIA ARCHITECTURE

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LATHROP HOUSE

RELOCATION REDWOOD CITY, CA 94063





EROSION CONTROL

PLAN

PROJ. NO. 2016 - 105

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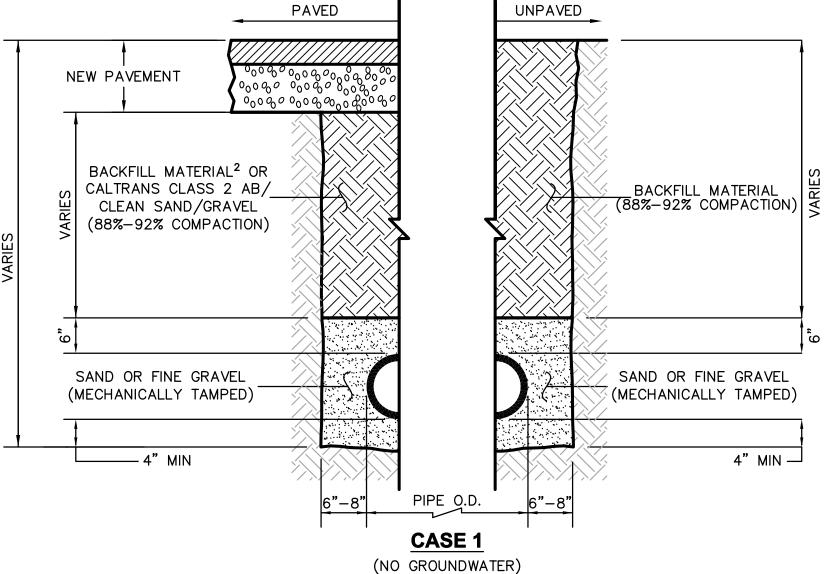
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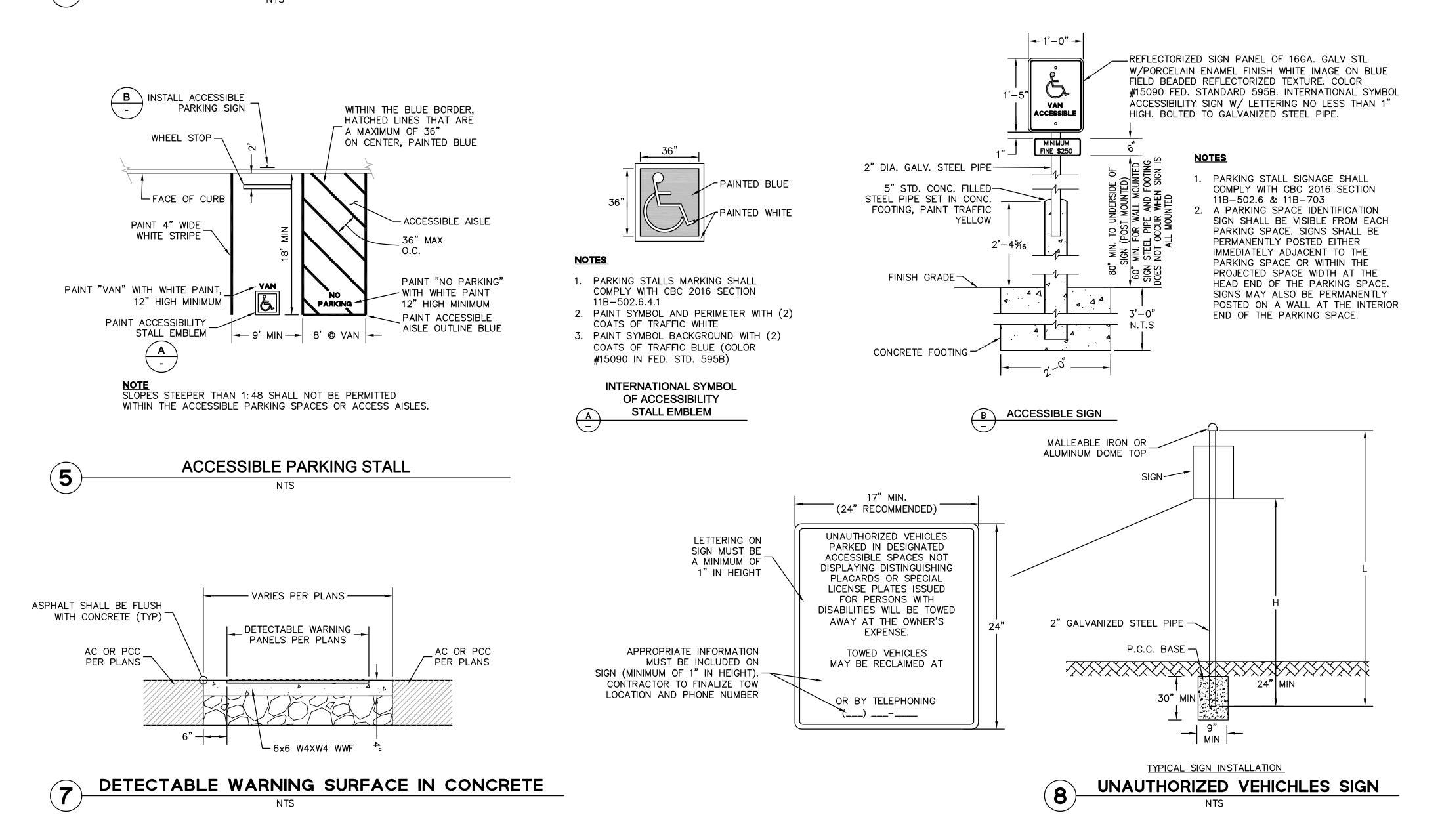


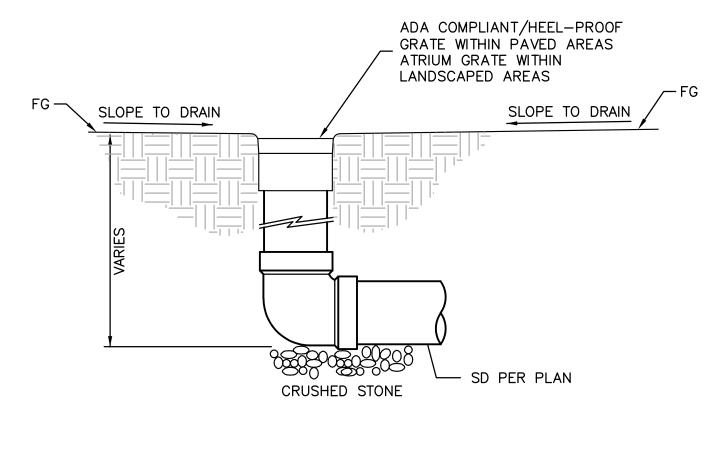


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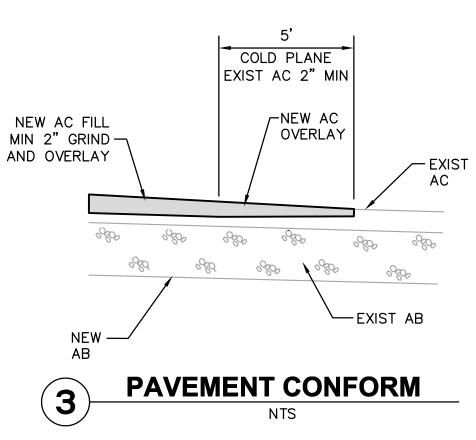
- 1. BACKFILL MATERIAL WITHIN PAVEMENT AREAS TO CONFORM TO THE CITY OF REDWOOD CITY STANDARD DRAWINGS.
- 2. PLACE GEOTEXTILE FABRIC (MIRAFI 140N OR EQUIVALENT) AT THE BASE OF EXCAVATION IF COARSE-GRAINED SOIL IS EXPOSED.

1 EXCAVATION OF TRENCHES FOR PIPES



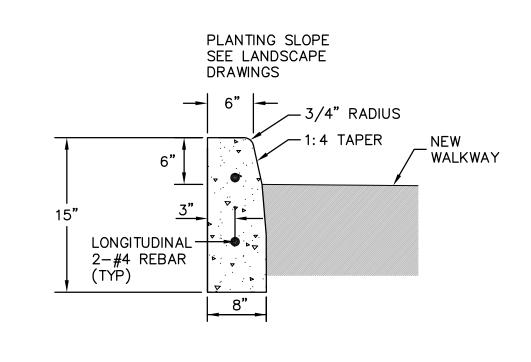








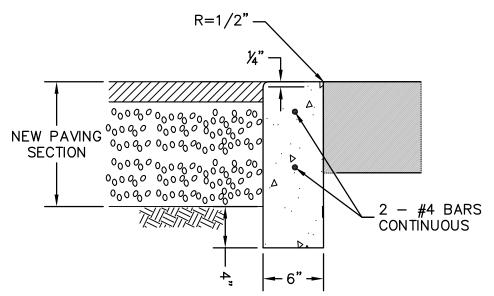
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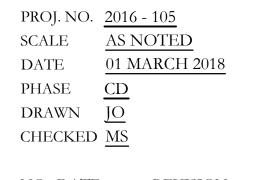


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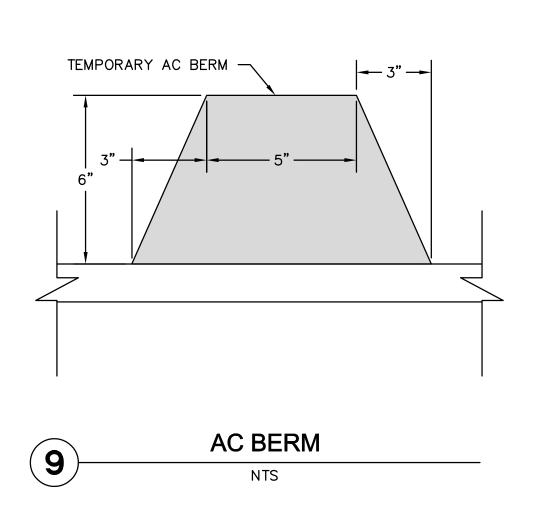
- 1. PLACE 1/4" EXPANSION JOINT MATERIAL AT 20' OC
- 2. EXTEND CURB 4" BELOW SUBGRADE.
- 3. REQUIRED CONCRETE MIX DESIGN IS 5 SACK, 3/4" AGGREGATE, 2500 PSI WITH 11/2 LB LAMPBLACK PER CU. YD.







NO.	DATE	REVISION
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2	15 MAY 2018	PERMIT RESUBMITTAL



C-5.0 ALL DRAWINGS AND WRITTEN MATERIAL APPEARIN CONSTITUTE ORIGINAL AND UNPUBLISHED WORK O ARCHITECT AND MAY NOT BE DUPLICATED, USED,

SHEET NO.

STRUCTURAL SPECIFICATIONS

SHEATHING

_

ALL SHEATHING SHALL CONFORM TO U.S. PRODUCT STANDARD PS 1, AMERICAN PLYWOOD ASSOCIATION. EACH SHEET SHALL BE STAMPED WITH THE PS AND/OR APA GRADEMARK.

WALL SHEATHING

SHALL BE MINIMUM 1/2" OSB OR 3 PLY INTERIOR TYPE RATED SHEATHING, C-D GRADE WITH EXTERIOR GLUE (CDX-EXPOSURE 1), SPAN RATING 24/0, SPECIES GROUP 2 OR BETTER.

ALL SHEATHING PERMANENTLY EXPOSED TO WEATHER SHALL BE EXTERIOR TYPE SHEATHING VS. INTERIOR TYPE SHEATHING AS REFERENCED ABOVE.

ALL UNBLOCKED SHEATHING EDGES SHALL BE TONGUE-AND-GROOVE OR SUPPORTED WITH CLEATS OR CLIPS.

FRAMING

DOUGLAS FIR COAST REGION, CONFORMING TO WEST COAST LUMBER INSPECTION BUREAU STANDARD GRADING AND DRESSING RULE NO. 17 AS AMENDED TO DATE.

2x, 3x, PLATES, JOISTS, AND PURLINS NO.2 (900F-b), PARA. 123-a. 1.

- 4x, PURLINS, LEDGERS, AND BEAMS, NO.1 (1000F-b), PARA. 123-b. 2.
- 6x BEAMS, DENSE NO.1 (1550F-b), PARA. 130-bb.
- 4x4 POSTS, NO.1 (1500F-c), PARA. 124-b.
- 4x6 POSTS, NO.1 (1500F-c), PARA. 123-b.
- 6x6 AND LARGER POSTS, DENSE NO.1 (1200F-c), PARA. 131-bb.
- 2x4, 3x4, STUDS BLOCKING, CONSTRUCTION GRADE, (1000F-b), PARA. 122-b. 7.
- 2x6 OR LARGER STUDS AND BLOCKING NO.1 (1000F-b), PARA. 123-b. 8.
- FOUNDATION PLATES: SBX/DOT OR ZINC BORATE PRESSURE TREATED DOUGLAS FIR. 9.

ALL FRAMING LUMBER 6" OR LARGER IN THE LEAST DIMENSION SHALL BE F.O.H.C.

LIGHT GAGE METAL CONNECTORS

ALL LIGHT GAGE METAL CONNECTORS SHALL BE SIMPSON COMPANY STRONG TIE CONNECTORS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.

CONCRETE

ALL CONCRETE SHALL HAVE PROPERTIES AS LISTED BELOW. MAXIMUM WATER-CEMENT RATIO, BY WEIGHT SHALL BE AS FOLLOWS:

	W/O FLY ASH	W/ UP TO 15% FLY ASH
5000 PSI CONCRETE AT 28 DAYS	.48	0.43
4000 PSI CONCRETE AT 28 DAYS	.55	0.5
3500 PSI CONCRETE AT 28 DAYS	.55	0.5
3000 PSI CONCRETE AT 28 DAYS	.55	0.5
2500 PSI CONCRETE AT 28 DAYS	.55	0.5
2000 PSI CONCRETE AT 28 DAYS	.67	0.60

APPROXIMATELY 3 OUNCES PER SACK OF CEMENT OF POZZOLITH 300R OR APPROVED EQUAL SHALL BE USED AS A WATER DISPERSING ADDITIVE. AT CONTRACTOR'S OPTION. AN AIR ENTRAINING AGENT CONFORMING TO THE LATEST REVISION OF ASTM SPECIFICATION C 260 MAY BE ADDED TO THE CONCRETE TO PROVIDE SPECIFIED AMOUNTS OF ENTRAINED AIR.

CONCRETE ELEMENT	MIN. 28 DAY COMPRESSIVE STRENGTH	MAX. SIZE AGGREGATE (INCHES)	MAX. SLUMP	TOTAL AIR CONTENT
FOUNDATION	*3000	3/4	4	%
SLAB ON GRADE	*3000	3/4	4	4%±1.5%
YARD CONCRETE,	2000	3/4	4	

WALKS, AND CURBS

*2500 PSI USED FOR DESIGN, NO SPECIAL INSPECTION REQUIRED

REINFORCING STEEL

BARS FOR REINFORCING SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM A-615 INCLUDING SUPPLEMENT S1. LAP SPLICES SHALL BE IN ACCORDANCE WITH ACI 318 UNLESS NOTED OTHERWISE ON THE PLANS.

MACHINE BOLTS, ANCHOR BOLTS AND STUDS ASTM A307

EARTHWORK

EARTHWORK SHALL BE IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE FOUNDATION INVESTIGATION BY KLEINFELDER DATED (OCTOBER 3, 2017 (ADDENDUM).

SHOP DRAWINGS FOR THE ENGINEERS REVIEW WILL BE REQUIRED AS FOLLOWS:

MIX DESIGNS; REINFORCING STEEL 2.

CONTRACTOR SHALL SUBMIT THREE SETS OF PRINTS FOR REVIEW. FABRICATION SHALL NOT PROCEED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY THE ENGINEER.

CONSTRUCTION LIABILITY

CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS AGREE THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY: THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR AND HIS SUBCONTRACTORS FURTHER AGREE TO DEFEND, INDEMNIFY AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.

EXISTING CONDITIONS

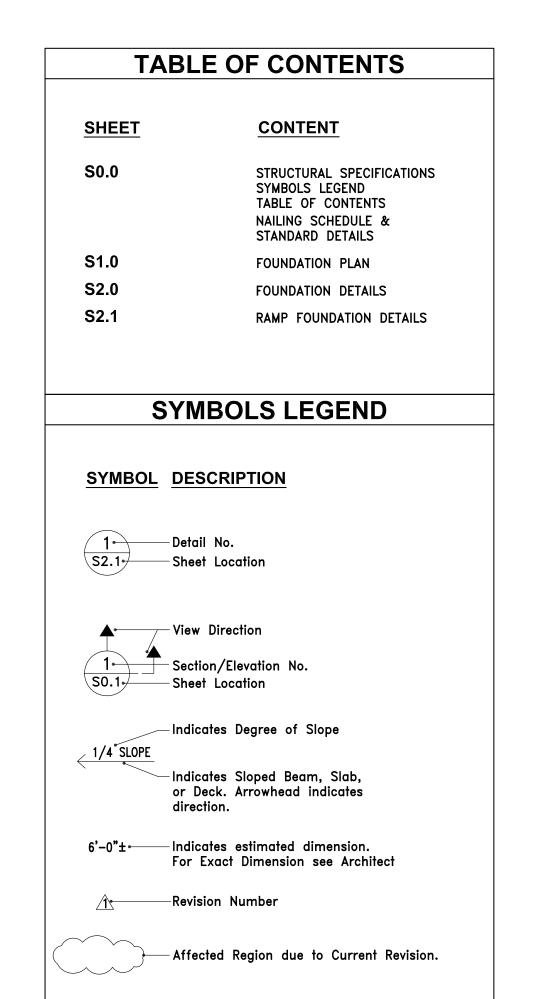
THE CONTRACTOR OR SUBCONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BEGINNING CONSTRUCTION AND OR ORDERING MATERIAL, ANY DISCREPANCIES DISCOVERED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

BLOCKING BETWEEN JOISTS OR RAFTE TO TOP PLATE RIM JOIST OR BLOCKING TO TOP PLAT OR SILL PLATE TOP PLATE AT LAPS AND INTERSECT CONTINUOUS HEADER, TWO PIECES (ALONG EACH EDGE) $w / \frac{1}{2}$ " SPACER CEILING JOIST (CJ) TO PLATE CONTINUOUS HEADER TO STUD CEILING JOIST (CJ) LAPPED OVER PA CEILING JOIST (CJ) PARALLEL TO RAF RAFTER OR ROOF TRUSS TO PLATE 1" DIAGONAL BRACE TO EACH STUD 1"x 6" SHEATHING OR LESS TO EACH 1"x 8" SHEATHING OR LESS TO EACH WIDER THAN 1"x 8" SHEATHING TO

TYPICAL REINFORCING BAR BENDS AND LAP SPLICE SCHEDULE

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SCALE: 3'' = 1' - 0''





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LATHROP HOUSE

RELOCATION REDWOOD CITY, CA 94063



STRUCTURAL SPEC.

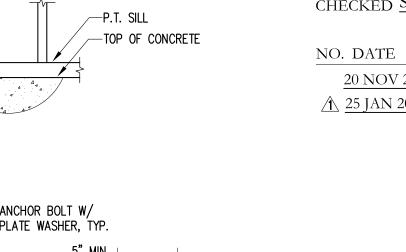
SYMBOLS LEGEND

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 NAILING SCHEDULE & STANDARD DETAILS

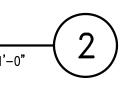
PROJ. NO. 17-0079 AS SHOWN SCALE 20 NOV 2017 DATE PHASE SD DRAWN ABL/JGL CHECKED <u>SPD</u>

REVISION 20 NOV 2017 PERMIT SET ▲ 25 JAN 2018 REV PLAN CHK COMMENTS

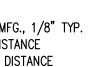


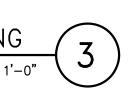
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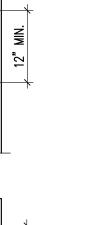
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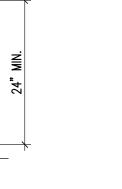


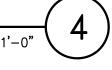
EAM FRAMING

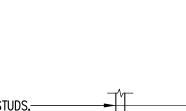


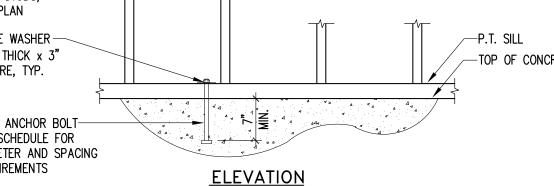


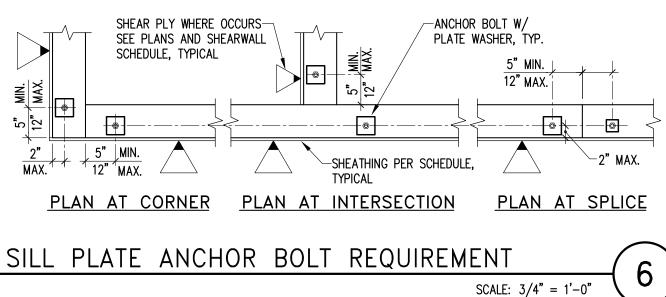


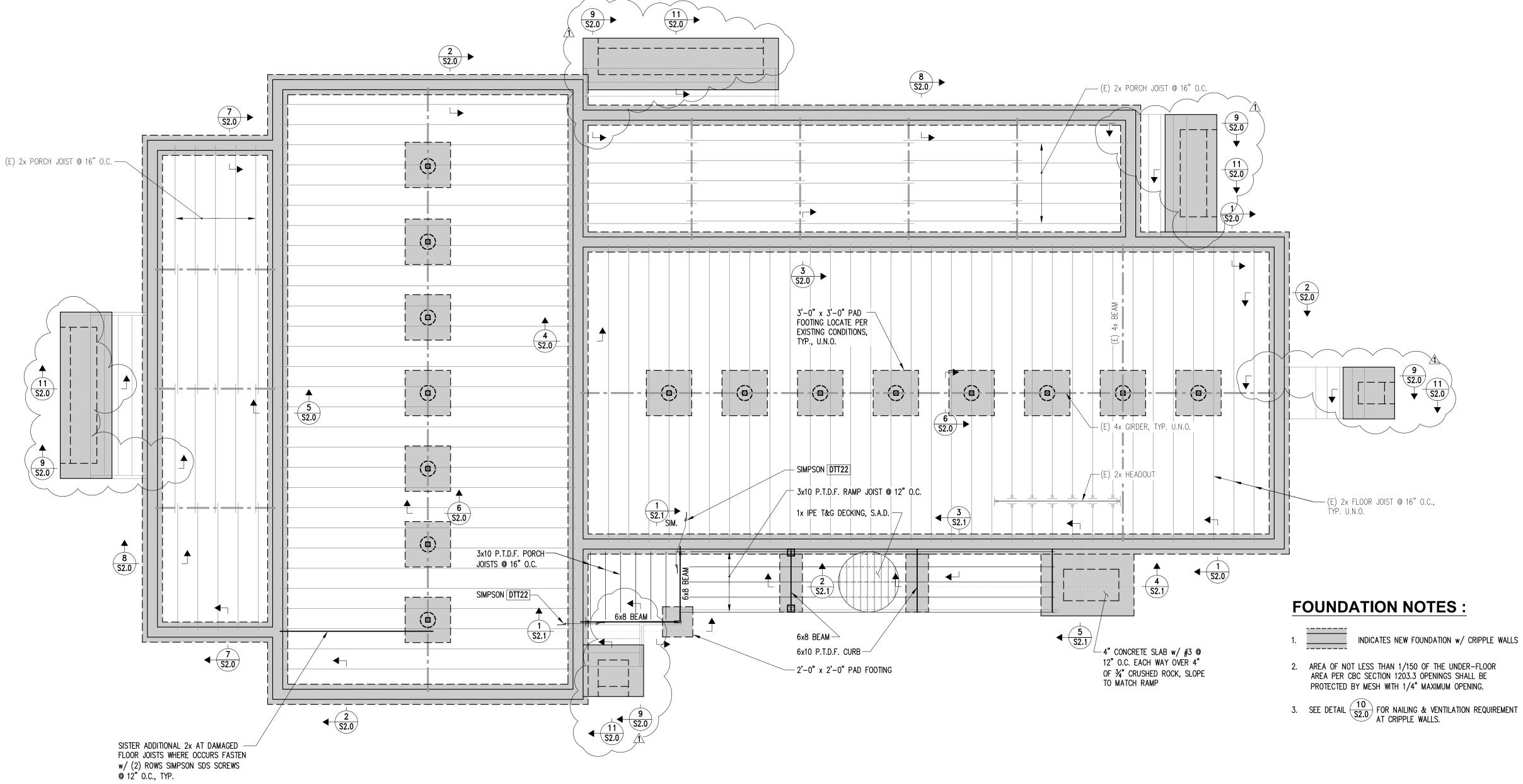












FOUNDATION PLAN

SCALE: 1/4" = 1'-0"

SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS, ELEVATIONS AND WALL LAYOUT. DO NOT SCALE THE STRUCTURAL DRAWINGS.



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LATHROP HOUSE

RELOCATION REDWOOD CITY, CA 94063



FOUNDATION PLAN

PROJ. NO. 17-0079 SCALE DATE PHASE <u>SD</u> DRAWN ABL/JGL checked <u>SPD</u>

NO. DATE

AS SHOWN 20 NOV 2017

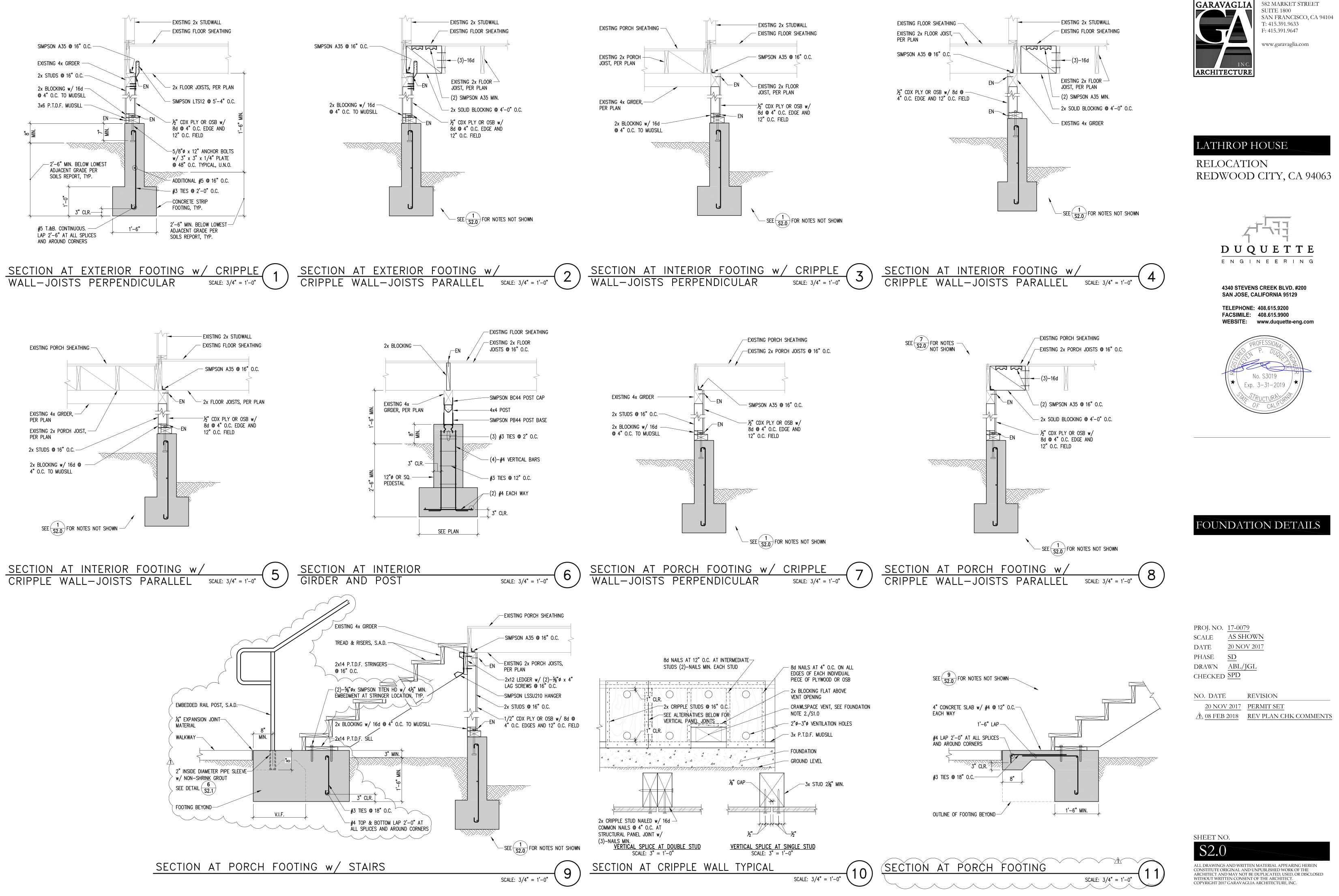
REVISION 20 NOV 2017 PERMIT SET <u>∧ 08 FEB 2018</u> <u>REV PLAN CHK COMMENTS</u>

SHEET NO.

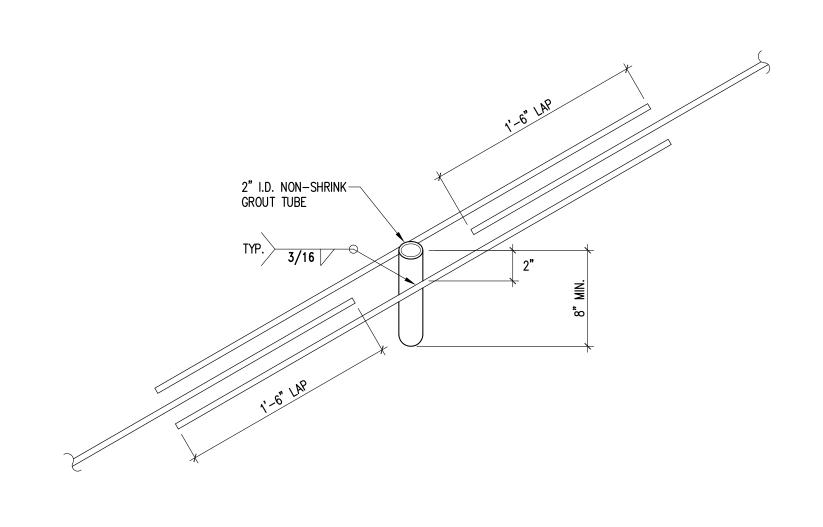
S1.0

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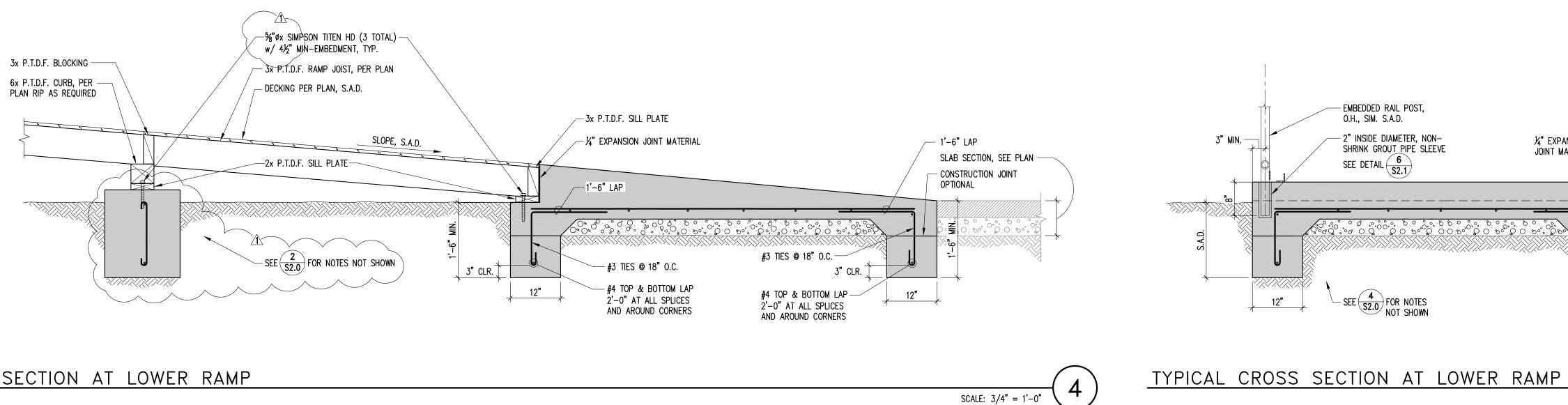
- INDICATES NEW FOUNDATION w/ CRIPPLE WALLS
- 2. AREA OF NOT LESS THAN 1/150 OF THE UNDER-FLOOR AREA PER CBC SECTION 1203.3 OPENINGS SHALL BE PROTECTED BY MESH WITH 1/4" MAXIMUM OPENING.

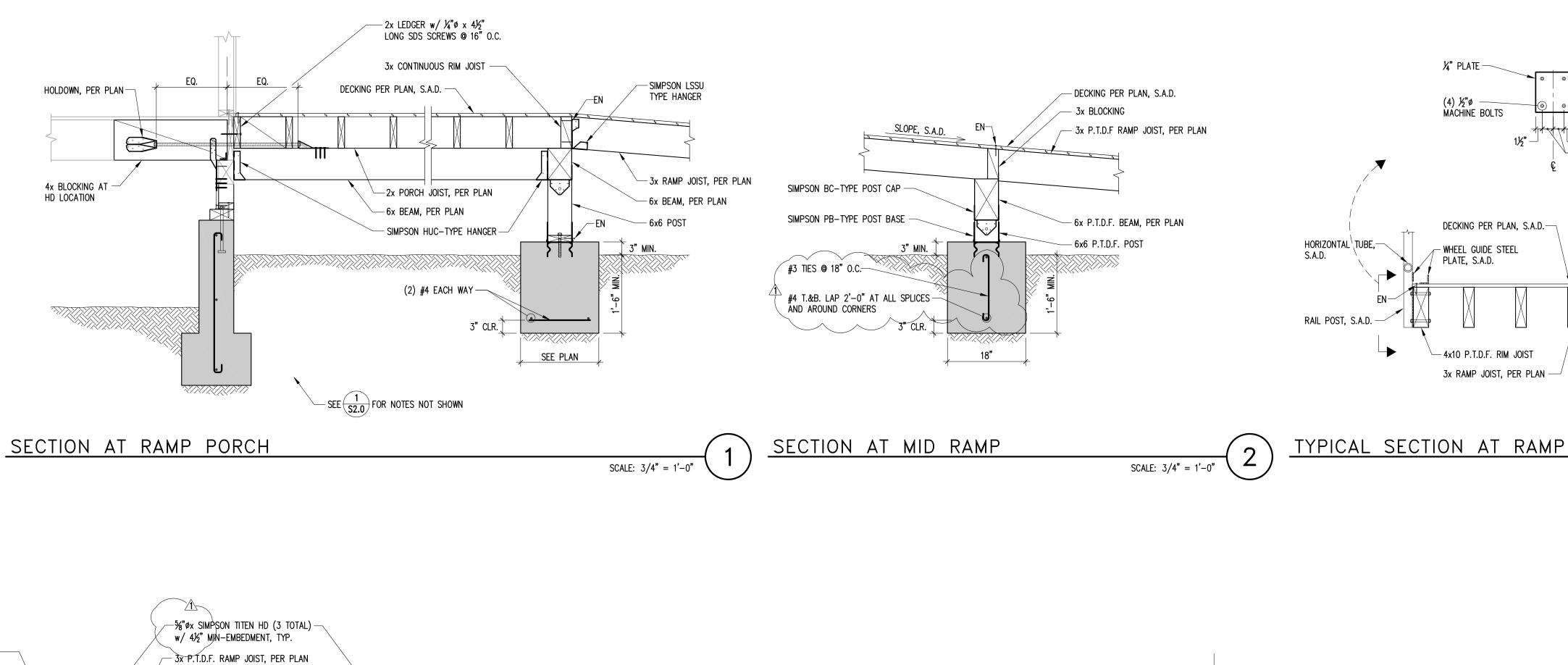


PIPE SLEEVE DETAIL



SECTION AT LOWER RAMP







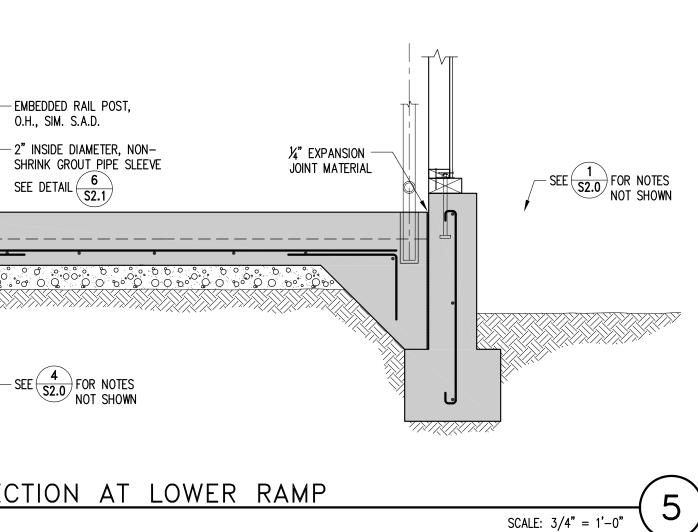
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1⁄4" plate —

(4) ½"ø _____ MACHINE BOLTS

<u>_____</u> 1½"

<u>↓</u>1%"

—1%"

<u>√</u>21⁄2"

1½" —

DECKING PER PLAN, S.A.D.

- WHEEL GUIDE STEEL

-4x10 P.T.D.F. RIM JOIST

3x RAMP JOIST, PER PLAN -

PLATE, S.A.D.

┕►

6¼"

EN-

✓ ½" CDX PLY OR OSB

w/ 8d @ 6" O.C.

- 2x CRIPPLE STUDS

@ 16" O.C.

GAP, S.A.D.

SCALE: 3/4" = 1'-0"

EDGES 12" O.C. FIELD

3

RAMP FND DETAILS

PROJ. NO. 17-0079 SCALE DATE PHASE \underline{SD} DRAWN <u>ABL/JGL</u> CHECKED SPD

AS SHOWN <u>20 NOV 2017</u>

NO. DATE 20 NOV 2017 PERMIT SET

REVISION ⚠ 08 FEB 2018 REV PLAN CHK COMMENTS

SHEET NO.

S2.1

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GENERAL PLUMBING NOTES

ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS (C.C.R.), 2016 CPC.

- ALL SYSTEMS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL APPLICABLE CITY, COUNTY, FEDERAL AND STATE CODES AND ORDINANCES, AND SHALL MEET ALL REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION.
- DRAWINGS SHOWING THE LOCATIONS OF PLUMBING EQUIPMENT, PIPING, ETC. ARE DIAGRAMMATIC AND JOB CONDITIONS WILL NOT ALWAYS PERMIT THEIR INSTALLATION ON THE LOCATIONS SHOWN. THE PLUMBING DRAWINGS SHOW THE GENERAL ARRANGEMENTS OF EQUIPMENT, PIPING, ETC. AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL BUILDING CONSTRUCTION AND THE WORK OF OTHER TRADES WILL PERMIT. THE ARCHITECTURAL DRAWINGS SHALL BE PART OF THE WORK INSOFAR AS THESE DRAWINGS FURNISH THE CONTRACTOR WITH INFORMATION RELATING TO LOCATION OF FIXTURES AND EQUIPMENT AS WELL AS DESIGN AND CONSTRUCTION OF THE BUILDING. COORDINATE FIXTURES, EQUIPMENT, PIPE ROUGH-IN/CONNECTION LOCATIONS AND DRAIN LOCATIONS WITH ARCHITECTURAL DRAWINGS.
- FURNISH AND INSTALL ANY INCIDENTAL WORK NOT SHOWN OR SPECIFIED WHICH ARE NECESSARY TO PROVIDE A COMPLETE AND WORKABLE SYSTEM.

PRIOR TO SUBMISSION OF BID, REVIEW FULL SET OF NEW CONSTRUCTION DRAWINGS (INCLUDING ALL OTHER TRADES). COORDINATE INSTALLATION OF PIPING, FIXTURES, EQUIPMENT AND THE LIKE BELOW AND ABOVE GRADE WITH STRUCTURAL COMPONENTS AND OTHER SYSTEMS INSTALLATION. INCLUDE ANY ADDITIONAL PIPE OFF-SETS THAT ARE NOT CURRENTLY SHOWN ON DRAWINGS BUT MAY BE REQUIRED TO CLEAR STRUCTURE, FINISHES OR WORK OF OTHER TRADES. NO EXTRA PAYMENT WILL BE ALLOWED FOR WORK RESULTING FROM LACK OF PROPER INITIAL APPRAISAL OF ENTIRE SCOPE OF WORK. SUBMIT REQUESTS FOR INFORMATION (RFIS) AS REQUIRED TO ANSWER ANY QUESTIONS THAT MAY ARISE DURING BIDDING PHASE. CLEARLY INDICATE SCOPE INCLUSION AND EXCLUSION IN BID.

- FOR PLUMBING PIPING PENETRATING THRU, UNDER AND PARALLEL TO JOISTS, BEAMS AND FOOTINGS, SEE STRUCTURAL DETAILS. PIPE INSTALLATION OTHER THAN SHOWN ON STRUCTURAL DETAILS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER.
- CONDITIONS SHOW ON THE PLANS RELATIVE TO THE WORK TO BE PERFORMED ARE BASED ON THE BEST INFORMATION AVAILABLE AND SUBJECT TO VERIFICATION. VERIFY LOCATIONS AND ELEVATIONS OF UTILITIES TO BE CROSSED OR CONNECTED. CORRECT DEFICIENCIES CAUSED BY FAILURE TO PERFORM SUCH VERIFICATIONS AT NO EXPENSE TO OWNER. IMMEDIATELY NOTIFY ARCHITECT AND ENGINEER OF CONDITION IN CONFLICT WITH THE DETAILS/PLANS.
- LOCATE VALVES FOR SERVICE ACCESSIBILITY. VALVES INSTALLED ABOVE CEILING SHALL BE WITHIN 18" OF CEILING.
- 9. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE CONNECTION SIZES.
- 10. SANITARY SEWER AND STORM/OVERFLOW PIPING LESS THAN 4 INCHES SLOPE AT 2% AND 4 INCHES AND ABOVE AT 1% SLOPE.
- 11. ALL PLUMBING EQUIPMENT SHALL BE SECURELY FASTENED TO THE BUILDING STRUCTURES.
- 12. WHERE MAIN PIPE SIZE IS NOT INDICATED BETWEEN BRANCH CONNECTIONS ON THE DRAWING, THE PIPE SIZE SHALL BE OF THE PRECEDING PIPE SIZE.
- 13. ALL VALVES AND ACCESSORIES SHALL BE FULL LINE SIZE. PROVIDE ALL NECESSARY UNIONS, REDUCERS AND STOPS AS REQUIRED WHEN CONNECTING TO EACH FIXTURE AND/OR EQUIPMENT.
- 14. KEEP ALL PLUMBING PIPING AS HIGH AS POSSIBLE TO THE STRUCTURE ABOVE AND OFFSET PIPING AS REQUIRED.
- 15. INSTALL ACCESS PANELS IN ALL NON-ACCESSIBLE CEILINGS AND WALLS FOR VALVES AND OTHER MAINTENANCE ITEMS. REFER TO ARCHITECTURAL PLANS FOR TYPES OF CEILINGS AND WALLS. INSTALL SECURITY ACCESS PANELS IN SECURITY CEILINGS AND WALLS. INSTALL FIRE RATED ACCESS PANELS IN FIRE RATED CEILINGS AND WALLS, SEE SPECIFICATIONS. ALL ACCESS PANEL/DOOR LOCATIONS SHALL BE APPROVED BY THE ARCHITECT. OFFSET PLUMBING PIPING AND ACCESSORIES AS REQUIRED.
- 16. CLOSELY COORDINATE WORK WITH ALL TRADES.
- 17. FOR ANY CONFLICT IN THE DRAWINGS AND/OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. ANY SUCH CONFLICT SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR ENGINEER FOR RESOLUTION PRIOR TO THE CONSTRUCTION OF SUCH ITEMS.
- 18. CHANGES IN THE DIRECTION OF DRAINAGE FLOW SHALL BE PER CALIFORNIA PLUMBING CODE.
- 19. ALL SANITARY VENTS SHALL TERMINATE AT LEAST 6" ABOVE ROOF AND AT LEAST 12" FROM ANY VERTICAL SURFACE. PROVIDE MINIMUM 10' CLEARANCE FROM VENT TERMINATIONS TO OUTSIDE AIR INLETS OR OPENINGS IN THE BUILDING.

20. PROVIDE INSULATION ON HW AND HWR PIPING AS REQUIRED BY CALIFORNIA ENERGY CODES.

ABBREVIATIONS

NOTE: NOT ALL ABBREVIATIONS APPLY

Ø	DIAMETER	МА	MIXED
ĂC	AIR CONDITIONING	MAX	MAXIN
AFF	ABOVE FINISHED FLOOR	MBH	THOUS
AMP	AMPERE	MECH	MECH
ARCH	ARCHITECTURAL	MIN	MINIM
BDD	BACKDRAFT DAMPERS	MSV	MANU
BHP	BRAKE HORSEPOWER		NEW
BLDG	BUILDING	(N) N/A	
BEDG	BRITISH THERMAL UNIT		NOT A
BTUH	BRITISH THERMAL UNIT PER HOUR	NIC	
CD	CONDENSATE DRAIN	NO	
CFM		NTS	NOT T
CEM		OAT	OUTSI
		OBD	OPPO
CLG		00	ON CE
DBT	DRY BULB TEMPERATURE DOWN	OD	OUTSI
DN DSD		OSA	OUTSI
	DUCT MOUNTED SMOKE DETECTOR	PH	PHASE
(E)	EXISTING	PLBG	PLUME
EA		POC	POINT
EAT	ENTERING AIR TEMPERATURE	POD	POINT
EER	ENERGY EFFICIENCY RATIO	PS	PUMPI
ELEC	ELECTRICAL	RA	RETUR
EQV	EARTHQUAKE SHUT-OFF VALVE	REQ'D	REQUI
ESP	EXTERNAL STATIC PRESSURE (IN WG)	REV	REVIS
EWT	ENTERING WATER TEMPERATURE	RPM	REVOL
F	FAHRENHEIT	SA	SUPPL
FA	FACE AREA	SD	SMOK
FLA	FULL LOAD AMPS	SEER	SEASO
FD	FIRE DAMPER	SGV	SOLEN
FPM	FEET PER MINUTE	SP	STATIO
FSD	FIRE/SMOKE DAMPER	SQ.FT.	SQUA
FT	FEET	STRUCT	STRUC
GA	GAUGE	SWV	SOLEN
GAL	GALLONS	ТА	TRANS
GALV	GALVENIZED	TCP	TEMPE
GS	GREASE SEWER	TEMP	TEMPE
HD	PIPE HEAD	TOD	TOP O
HP	HORSEPOWER	TP	TRAP
HVAC	HEATING VENTILATING AND AC	TYP	TYPIC
HZ	HERTZ	UC	UNDEF
ID	INSIDE DIAMETER	UF	UNDEF
IN.	INCH	UG	UNDEF
IN. W.G.	INCHES WATER GAGE (PRESSURE)	US	UNDEF
KW	KILOWATT	UON	UNLES
LAT	LEAVING AIR TEMPERATURE	VEL	VELOC
LBS	POUNDS	WT	WEIGH
LF	LINEAR FEET		

MIXED AIR		
MAXIMUM		

	MAXIMUM
	THOUSAND BTU PER HOUR
	MECHANICAL
	MINIMUM
	MANUAL SHUT-OFF VALVE
	NEW
	NUMBER OR NORMALLY OPEN
	NOT TO SCALE
	OUTSIDE AIR TEMPERATURE
	OPPOSED BLADE DAMPER
	ON CENTER
	OUTSIDE DIMENSION
	OUTSIDE AIR
	PHASE
	PLUMBING
	POINT OF CONNECTION
	POINT OF DEMOLITION
	PUMPED SEWER PIPE
	RETURN AIR
	REQUIRED
	REVISION
	REVOLUTIONS PER MINUTE
	SUPPLY AIR
	SEASONAL ENERGY EFFICIENCY RATIO
	SOLENOID GAS VALVE
	STATIC PRESSURE
	SQUARE FEET
T	STRUCTURAL
	SOLENOID WATER VALVE
	TRANSFER AIR
	TEMPERATURE CONTROL PANEL
	TEMPERATURE
	TOP OF DUCT
	TRAP PRIMER
	TYPICAL
	UNDERCUT
	UNDERFLOOR
	UNDERGROUND
	UNDERSLAB
	UNDERSLAD UNLESS OTHERWISE NOTED
	VELOCITY
	WEIGHT

APPLICABLE CODES

- 2016 BUILDING STANDARD ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R. 2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.;
- 3. 2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.;
- 4. 2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.; 5. 2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.;
- 6. 2016 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.; 2016 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.;
- 8. 2016 CALIFORNIA "GREEN" BUILDING REQUIREMENTS, PART 11, TITLE 24 C.C.R (PENDING ADOPTION)
- 9. 2016 CALIFORNIA EXISTING BUILDING CODE, PART 10, TITLE 24 C.C.R 10. 2016 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R.
- 11. TITLE 19, CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
- 12. REFERENCE CODE SECTION FOR NFPA STANDARDS CBC(SFM) 3504.1 13. TITLE 24 C.C.R. ACCESSIBILITY STANDARDS
- 14. AMERICAN WITH DISABILITIES ACT (A.D.A., ADAAG) FEDERAL ACCESSIBILITY STANDARDS

SCOPE OF WORK

DEMOLITION SCOPE OF WORK: DISCONNECT (E) COLD WATER, SANITARY SEWER AND GAS MAINS FROM (E) BUILDING JUST OUTSIDE BUILDING, CAP (E) PIPE AND CREATE STUBS FROM BUILDING FOR RECONNECTION AT NEW SITE. CAP (E) CW & G PIPE MAINS AT METERS AND CAP (E) SS MAINS BELOW GRADE FOR FUTURE RECONNECTION AS SHOWN.

NEW SCOPE OF WORK

RECONNECT NEW COLD WATER, SANITARY SEWER AND GAS MAINS TO (E) BUILDING MAIN AFTER RELOCATION OF BUILDING TO NEW SITE AS SHOWN. RECONNECTION AND ROUTING OF NEW PIPE MAINS TO (E) FROM (E) BUILDING PIPE STUBS SHALL BE PROVIDED UNDER CIVIL SCOPE OF WORK. PROPOSED RECONNECTION LOCATIONS ARE AT (E) RESTROOM FOR SS, AT (E) GAS AND WATER METERS AT THE EXISTING COURT HOUSE FOR GAS AND WATER.

SECTION NUMBER

DEMOLISHED PIPING

COLD WATER SUPPLY

HOT WATER SUPPLY

SANITARY VENT

NATURAL GAS

WALL CLEANOUT

PIPE RISER UP (ELBOW)

PIPE RISER DOWN (ELBOW)

PLUMBING FIXTURE IDENTIFICATION

PIPE BREAK

HOSE BIBB

BALL VALVE

AQUASTAT

REFERENCE NOTE

GAS MAIN SHUTOFF VALVE

WATER SHUTOFF VALVE

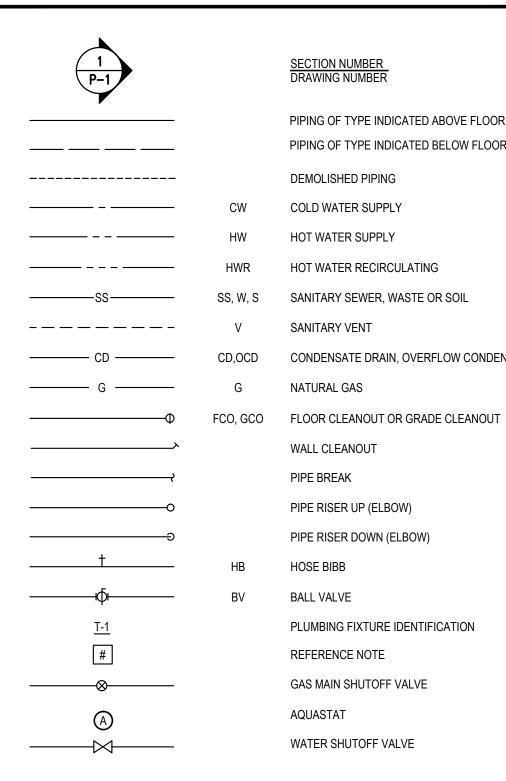
HOT WATER RECIRCULATING

SYMBOLS

NOTE: NOT ALL ABBREVIATIONS APPLY

PIPING OF TYPE INDICATED ABOVE FLOOR OR ABOVE GRADE PIPING OF TYPE INDICATED BELOW FLOOR OR BELOW GRADE

CONDENSATE DRAIN, OVERFLOW CONDENSATE DRAIN



SHEET INDEX

P-0.01 PLUMBING TITLE SHEET P-1.01 PLUMBING DEMOLITION PLAN P-2.01 PLUMBING PLAN



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LATHROP HOUSE

RELOCATION REDWOOD CITY, CA 94063



ENGINEERING DESIGN COLLABORATIVE 582 MARKET STREET. SUITE 400 SAN FRANCISCO, CA 94104 (415) 963–4303

> 212 9TH STREET, SUITE 203 OAKLAND, CA 94607



PLUMBING

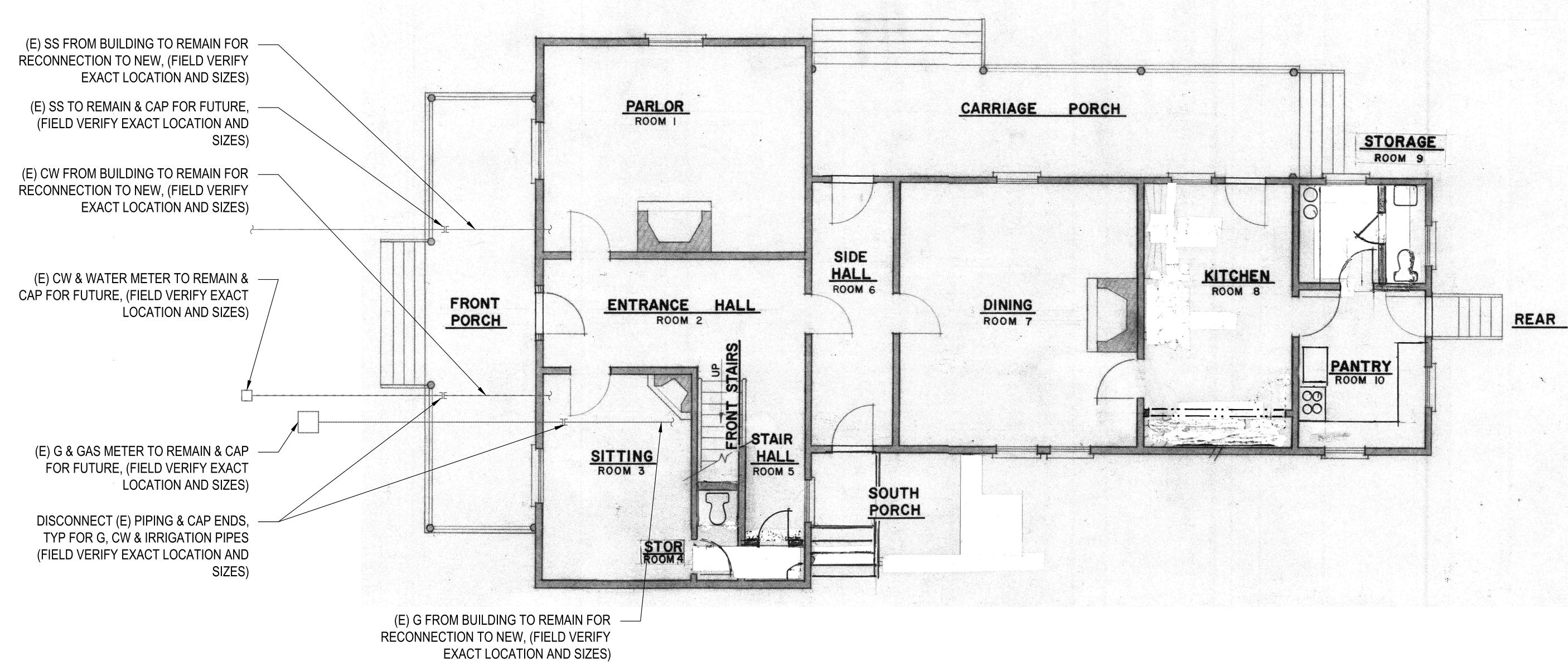
TITLE SHEET

PROJ. NO.	2016 - 105
SCALE	
DATE	OCTOBER 20, 2017
PHASE	PERMIT SET
DRAWN	HC
CHECKED	RL

NO. DATE REVISION



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PLUMBING DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES:

1. DRAWING IS DIAGRAMMATIC AND SHOWS THE GENERAL DESIGN INTENT. FIELD VERIFICATION OF EXISTING CONDITIONS IS REQUIRED PRIOR AND DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE NOTED AND CLARIFIED PRIOR TO CONTINUATION

0'1'2'4'



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FLOOR PLAN

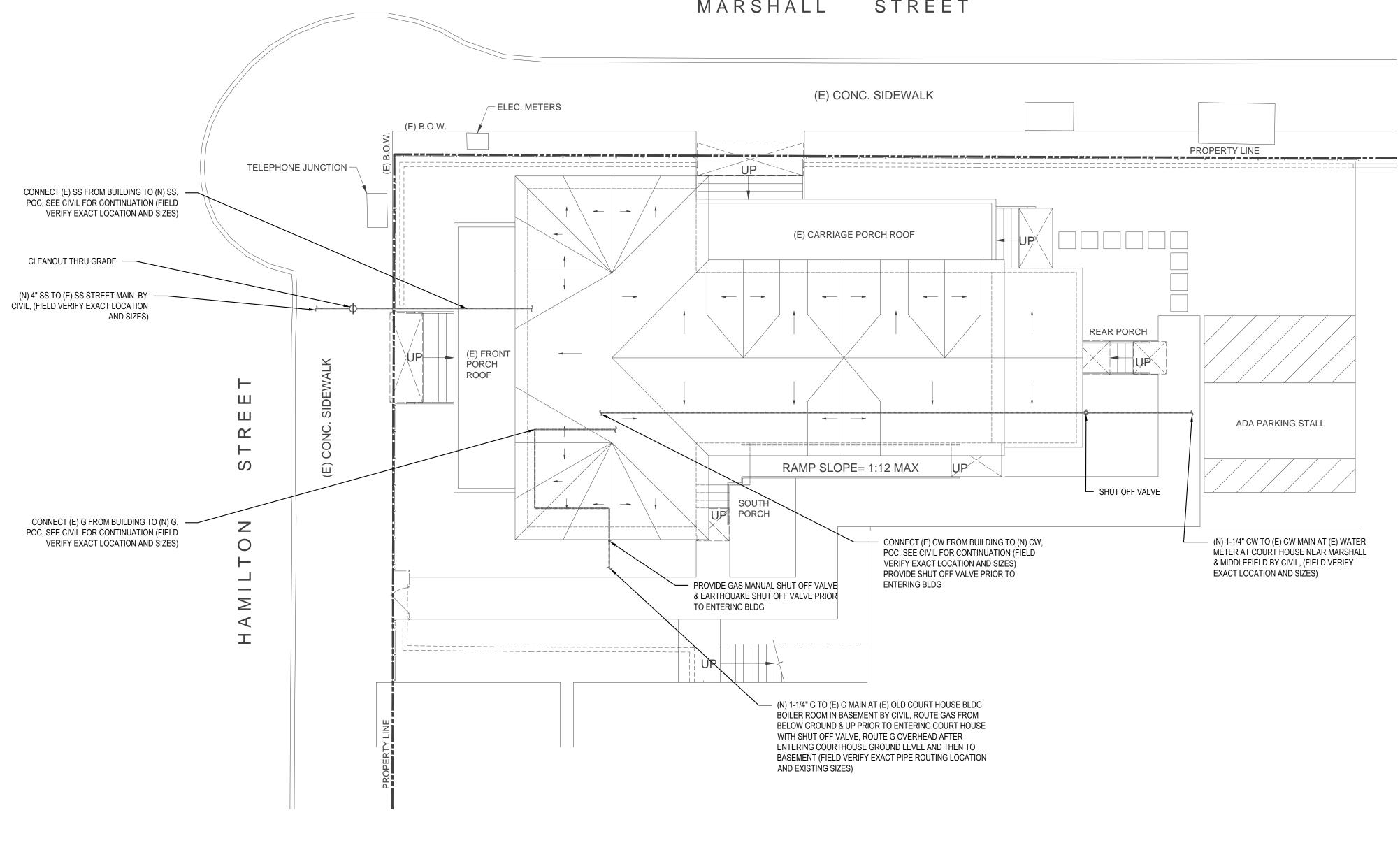
PLUMBING DEMOLITION

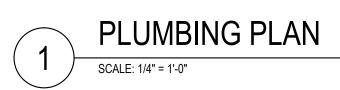
PROJ. NO. <u>2016 - 105</u> SCALE OCTOBER 20, 2017 DATE PERMIT SET PHASE DRAWN <u>HC</u> CHECKED <u>**RL**</u>

NO. DATE REVISION



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OF WORK.

3. NEW SANITARY SEWER SHALL BE CONNECTED TO (E) STREET MAIN WITH A NEW SERVICE FROM HAMILTON STREET. NEW COLD WATER SHALL BE CONNECTED TO (E) WATER METER AT EXISTING COURT HOUSE NEAR MARSHALL & MIDDLEFIELD STREET. NEW GAS SHALL BE CONNECTED TO (E) GAS MAIN IN THE BOILER ROOM OF THE EXISTING OLD COURT HOUSE. (FIELD VERIFY EXISTING)

STREET MARSHALL

GENERAL SHEET NOTES:

1. DRAWING IS DIAGRAMMATIC AND SHOWS THE GENERAL DESIGN INTENT. FIELD VERIFICATION OF EXISTING CONDITIONS IS REQUIRED PRIOR AND DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE NOTED AND CLARIFIED PRIOR TO CONTINUATION

2. PIPING FROM 5' OUTSIDE BUILDING SHALL BE PROVIDED UNDER THE CIVIL'S SCOPE OF WORK.



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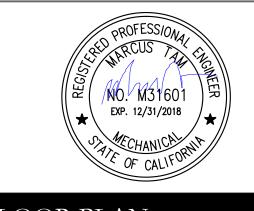
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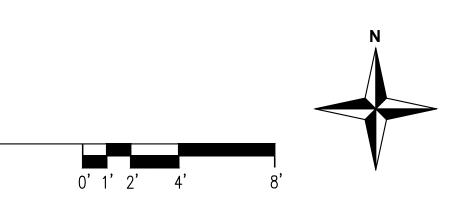


FLOOR PLAN

PLUMBING PLAN

PROJ. NO. <u>2016 - 105</u> SCALE OCTOBER 20, 2017 DATE PERMIT SET PHASE DRAWN <u>HC</u> CHECKED <u>**RL**</u>

NO. DATE REVISION





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GENERAL ELECTRICAL NOTES

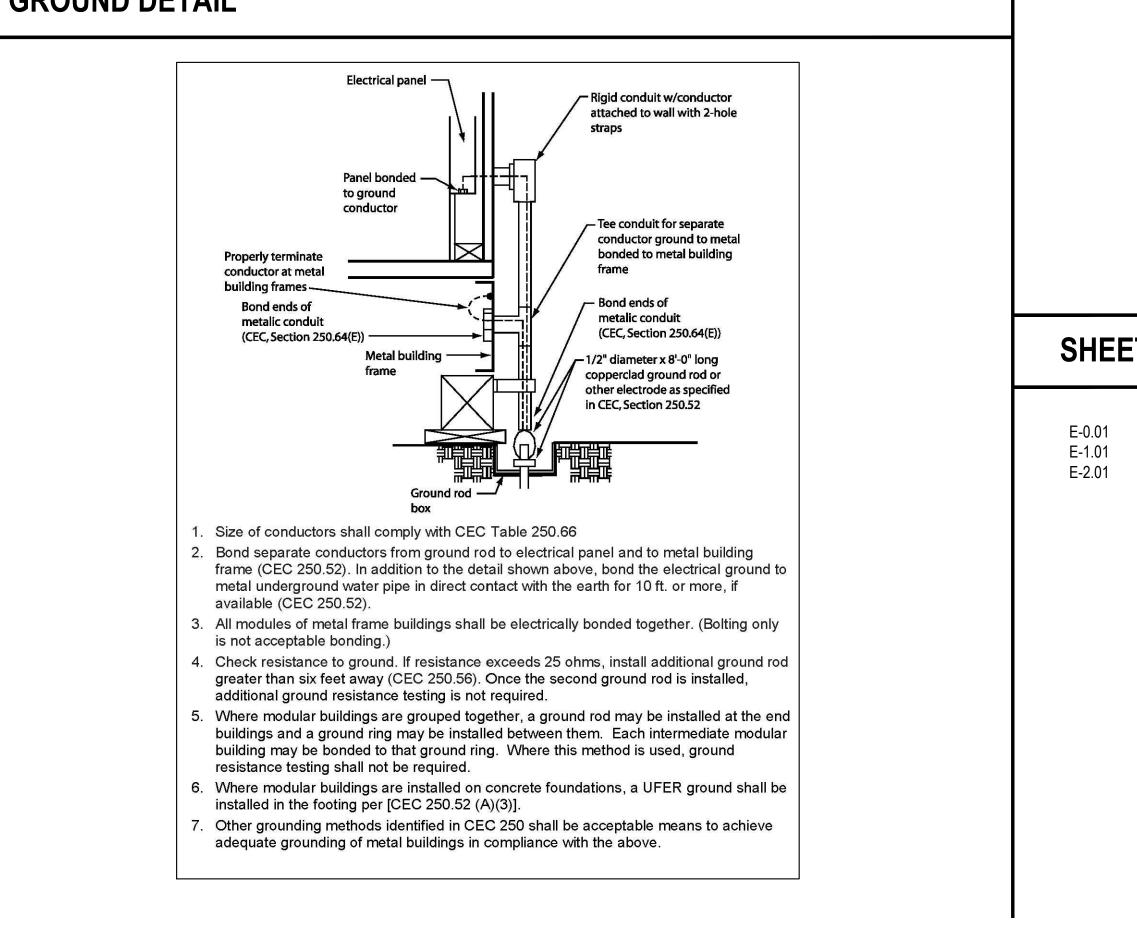
- 1. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE NATIONAL ELECTRIC CODE, STATE LAWS, AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.
- 2. CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE EXISTING JOB CONDITION. HE SHALL EXAMINE CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND SHALL HAVE HAD VISITED THE CONSTRUCTION SITE, PRIOR TO SUBMITTING HIS BID PROPOSAL. HE SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS UNDER WHICH HE WILL HAVE TO OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN THIS CONNECTION IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS PART. DETERMINE THE SEQUENCE OF CONSTRUCTION THROUGHOUT THE PROJECT. INCLUDING TEMPORARY FACILITIES AND CONNECTIONS REQUIRED FOR THE DURATION OF THE PROJECT
- THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS, AND PAY ANY AND ALL FEES AS REQUIRED.
- 4. EXISTING ARCHITECTURAL SURFACES DISTURBED DURING CONSTRUCTION SHALL BE PATCHED AND PAINTED TO MATCH EXISTING.
- 5. WORK SHOWN IN THESE PLANS ARE NEW, UON. INSTALLATION SHALL BE CONCEALED. WHERE NOT POSSIBLE, CONTRACTOR SHALL OBTAIN APPROVAL FROM ARCHITECT AND ENGINEER FOR EXPOSED INSTALLATION. A WRITTEN APPROVAL IS REQUIRED. USE SURFACE RACEWAYS, WIREMOLD, OR EQUAL. ALL ELECTRIC MATERIALS, DEVICES, AND EQUIPMENT FOR THE PROJECT SHALL BE NEW AND U.L. APPROVED
- 6. ALL CONDUIT SHALL BE 3/4" MINIMUM. ALL CONDUIT SHALL BE RUN PARALLEL TO EXISTING SURFACES. WHEN CONDUIT CROSSES CORRIDORS OR ROOMS IT SHALL BE DONE PERPENDICULAR TO WALLS.
- 7. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS. FURNISH AND INSTALL FIRE RATED BACKBOXES AS REQUIRED TO MAINTAIN FIRE RATING OF CEILING OR WALLS WHERE RECESSED ELECTRIC EQUIPMENT SUCH AS LIGHT FIXTURES, SWITCHES, RECEPTACLES, PANEL, ETC. ARE INSTALLED IN RATED WALL OR CEILINGS. PENETRATIONS OF FIRE RATED WALLS, CEILINGS, OR FLOORS SHALL COMPLY WITH CBC CHAPTER 7 REQUIREMENTS. IN WALLS AND PARTITIONS THAT ARE FOR FIRE RESISTIVE CONSTRUCTION, OPENINGS FOR STEEL ELECTRICAL OUTLET BOXES SHALL NOT EXCEED 16 SQUARES INCHES. IN ADDITION, THE AGGREGRATE AREA OF SUCH OPENING SHALL NOT EXCEED 100 SQ IN FOR ANY 100 SQUARE FEET OF WALL OR PARTITION. OUTLET BOXES ON OPPOSITE SIDES OF THE WALLS OR PARTITION SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF AT LEAST 24 INCHES, OR BE PROVIDED WITH FIRE PUTTY
- 8. ALL NEW WIRING SHALL BE IN CONDUIT. COORDINATE ROUTING OF CONDUIT WITH ARCHITECT AND STRUCTURAL FOR OPENINGS IN WALLS AND ANY NOTCHING OF JOISTS.
- 9. THE ELECTRICAL PLANS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL OF THE ARCHITECTURAL DETAILS OR SPECIFICS OF ELECTRICAL CONSTRUCTION. TAKE ALL DIMENSIONS FROM THE ARCHITECTURAL DRAWINGS. BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, OUTLETS, CONDUIT RUNS, ETC. WITH ARCHITECT AND OWNER. PLACE DEVICES LOCATED ABOVE COUNTERS, SHELVING, ETC. AND IN BATHROOMS SO AS NOT TO CONFLICT WITH EDGES OF WAINSCOTING, COUNTER SPLASH, SHELVING, ETC. ARCHITECTURAL SHEETS SHALL GOVERN. SEE ELECTRICAL SECTION OF ARCHITECTURAL SPECIFICATION FOR ADDITIONAL INFORMATION.
- 10. PULLROPES: ANY RACEWAY WITHOUT CABLE OR WIRE SHALL BE INSTALLED WITH MINIMUM 200 POUND TEST PULL LINE AND LARGER.
- 11. ALL DEVICES AND EQUIPMENT INSTALLED OUTDOORS OR EXPOSED TO THE WEATHER SHALL BE OF WEATHERPROOF CONSTRUCTION. ALL WALL PENETRATIONS TO EXTERIOR WALLS SHALL BE SEALED WATER TIGHT
- 12. ALL EQUIPMENT SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY AND SHALL BE INSTALLED AS PER LISTING OR LABELING (IE. MAXIMUM FUSE SIZE MEANS FUSE PROTECTION IS REQUIRED)
- 13. ALL EQUIPMENT MANUFACTURERS SHALL BE NOTED IN DRAWINGS. SUBSTITUTIONS ARE PERMITTED BUT MUST BE APPROVED EQUAL.
- 14. CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE MADE WITH A MINIMUM OF 24" OF WEATHERPROOF FLEXIBLE CONDUIT TO PREVENT SOUND AND VIBRATION TRANSMISSION TO THE STRUCTURE. COORDINATE ALL MOTOR OVERLOADS AND/OR FUSES FURNISHED BY THIS CONTRACT WITH THE ACTUAL EQUIPMENT INSTALLED. SIZE OVERLOADS BASED ON MOTOR NAMEPLATE FULL LOAD CURRENT AND SERVICE FACTOR. FUSES FOR MOTOR AND TRANSFORMER CIRCUITS SHALL BE DUAL ELEMENT. FUSES FOR OTHER "NON-INRUSH" LOADS SHALL BE FAST ACTING. ALL FUSES SHALL BE CURRENT LIMITING CLASS RK5 OR CLASS L, UON. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR MANUFACTURER INSTALLATION REQUIREMENTS.
- 15. SEE MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION OF FANS AND WATER HEATERS.
- 16. ALL ELECTRICAL WORK SHALL BE COORDINATED WITH THE MECHANICAL WORK AS CALLED FOR IN MECHANICAL SPECIFICATIONS.
- 17. GROUNDING CONDUCTORS ARE GENERALLY NOT SHOWN. GROUND AND BOND ALL EQUIPMENT, RACEWAYS, MOTORS, PANELBOARDS AND SWITCHBOARDS, ETC. IN ACCORDANCE WITH NEC ARTICLE 250.
- 18. FIELD MOUNTED DEVICES SUCH AS SWITCHES, MOTOR STARTERS, RECEPTACLES, ETC., ARE SHOWN IN THEIR APPROXIMATE LOCATION. SWITCH MOUNTING HEIGHT SHALL BE 48" ABOVE FINISHED FLOOR AND RECEPTACLE MOUNTING HEIGHT SHALL BE 18" ABOVE FINISHED FLOOR. CONTRACTOR SHALL COORDINATE WITH ALL TRADES FOR MANUFACTURER INSTALLATION REQUIREMENTS.
- 19. ELECTRICAL CONTRACTOR TO PROVIDE EXPANSION FITTINGS AT ALL EXPANSION JOINT LOCATION. USE STEEL FLEX 6 FEET EACH SIDE OF THE JOINT AND TERMINATE IN A PULLBOX AT EACH END, OR OTHER APPLIED METHODS.
- 20. ALL LIGHTING FIXTURE LOCATIONS AND ROUTING SHALL BE REVIEWED BY ARCHITECT PRIOR TO ROUGH-IN.
- 21. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED TO MAINTAIN A MINIMUM OF 36" CLEARANCE PER NEC ARTICLE 110.26.
- 22. PENETRATIONS OF FIRE RATED WALLS CEILINGS OR FLOORS SHALL COMPLY WITH CBC CHAPTER 7 REQUIREMENTS.
- 23. WHERE OUTLET BOXES ARE INSTALLED WITHIN RATED ASSEMBLIES, PROVIDE 3M MOLDABLE PUTTY PADS OR EQUAL TO MAINTAIN FIRE RATED ASSEMBLIES.
- 24. ALL RECEPTACLES SHALL BE GROUNDING TYPE.
- 25. ALL RECEPTACLES INSTALLED IN BATHROOMS AND KITCHENS SHALL HAVE GROUND-FAULT CIRCUIT INTERRUPTER PROTECTION AS REQUIRED BY THE NATIONAL ELECTRIC CODE.
- 26. CONTRACTOR TO CONFIRM EXACT LOCATION OF METERS WITH ELECTRIC UTILITY.
- 27. SUBMIT TO THE OWNER CERTIFICATES OF INSPECTIONS IN DUPLICATE FROM AN APPROVED INSPECTION AGENCY UPON COMPLETION.
- 28. PERFORMANCE AND WITNESSING OF TESTS
- A. THE CONTRACTOR SHALL FURNISH ALL INSTRUMENTS AND QUALIFIED PERSONNEL OR FIRM TO PERFORM ALL REQUIRED TESTS.
- B. ALL NEW AND RECONNECTED ELECTRICAL CIRCUIT SHALL BE TESTED TO INSURE CIRCUIT CONTINUITY, INSULATION RESISTANCE, PROPER SPLICING AND GROUNDING IN ACCORDANCE WITH THE LATEST STANDARDS AS STATED ABOVE. BEFORE CONNECTING POWER CABLES TO MOTORS, THE INSULATION RESISTANCE OF ALL MOTOR WINDINGS SHALL BE TESTED IN ACCORDANCE WITH THE ABOVE STANDARDS.
- C. ANY CONTRACTOR FURNISHED AND/OR INSTALLED SPLICE, RECOMMENDED VOLTAGE AND INSULATION RESISTANCE TESTS, SHALL BE CONNECTED OR REPLACED BY THE CONTRACTOR AT HIS EXPENSE.
- D. NO EQUIPMENT SHALL BE ENERGIZED UNTIL ALL TESTS AND ADJUSTMENTS HAVE BEEN MADE.
- E. THREE COPIES OF ALL TEST RESULTS SHALL BE DELIVERED TO THE OWNER.

ABBREVIATIONS

A AC AF	AMPERE ALTERNATING CURRENT AMPERE RATING OF FUSE	N (N) NIC	NEUTRAL NEW NOT IN CONTRACT	F	Building Electrical	Existing Condition Building meter and main	Proposed Solution route new service from Museum
AFF	ABOVE FINISHED FLOOR	N.E.C.			Service	disconnect on front of house.	MSB to existing main disconnect
C CKT D	CONDUIT CIRCUIT DEDICATED	NEMA NEUT NIC	NATIONAL ELECTRICAL MANUFACTURERS ASSOC. NEUTRAL NOT IN CONTRACT		Fire Alarm	None Existing	Provide monitoring and central station notifcation for new site fire protection sprinkler system.
E ELEC	EXISTING TO REMAIN ELECTRICAL	NTS PB	NOT TO SCALE PULL BOX		Security System	Intrusion system monitoring entrances.	Coordinate with Security System contractor to reconnect to MPOE.
EM EMT <f></f>	EMERGENCY ELECTRICAL METALLIC TUBING FUTURE	PNL POS RR	PANEL POINT OF SALE REMOVE AND RELOCATE		Telephone	Antiquated systems existing	Coordinate reconnect of telephone line service from Museum to MPOE.
FACP	FIRE ALARM CONTROL PANEL	RSC	RIGID STEEL CONDUIT				
FATC	FIRE ALARM TERMINAL CAN	SLD	SINGLE LINE DIAGRAM SPEC SPECIFICATION				
G	GROUNDING CONDUCTOR	Т	TELEPHONE				
GFI	GROUND FAULT INTERRUPTER	TV	TELEVISION				
GND	GROUND	UG	UNDERGROUND				
HP	HORSEPOWER	UAC	UNDER ANOTHER CONTRACT				
kVA	KILOVOLT AMPS	UON	UNLESS OTHERWISE NOTED				
kW	KILOWATTS	V	VOLT				
LTG	LIGHTING	VP	VANDAL PROOF				
LTS	LIGHTS	W	WATTS				
LV	LOW VOLTAGE	WP	WEATHERPROOF (NEMA 3R)				
MECH	MECHANICAL	WT	WATERTIGHT				
MTD	MOUNTED	XFMR	TRANSFORMER				
MV	MEDIUM VOLTAGE						

SYMBOLS

	12. T NFPA 13
8V 3 PHASE, 4 WIRE FLUSH/SURFACE IN COMMUNITY BUILDING. JACENT SURFACE. VERIFY COLOR WITH ARCHITECT.	9. 2 10. 2 11. 2
ATHERPROOF WITH IN-USE COVER, D=DEDICATED,OS=OCCUPANCY ANT TYPE. REFER TO SCOPE OF WORK MATRIX FOR AFCI TYPE	5. 2 6. 2 7. 2
JND.	3. 2 4. 2
	2. 2
	1 0



SCOPE OF WORK



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LATHROP HOUSE

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> 212 9TH STREET, SUITE 203 OAKLAND, CA 94607

APPLICABLE CODES

2016 BUILDING STANDARD ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.

- 2016 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.; 2016 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.
- 2016 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.;
- 2016 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.;
- 2016 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.
- 2016 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24, C.C.R.; 2016 CALIFORNIA EXISTING BUILDING CODE, PART 10, TITLE 24 C.C.R

2016 CALIFORNIA "GREEN" BUILDING REQUIREMENTS, PART 11, TITLE 24 C.C.R 2016 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24, C.C.R. TITLE 19, CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

13, AUTOMATIC SPRINKLER SYSTEM, 2016 EDITION 14, STANDPIPE AND HOSE SYSTEMS, 2016 EDITION 72, NATIONAL FIRE ALARM CODE, 2016 EDITION



ELECTRICAL

TITLE SHEET

PROJ. NO. 2016 - 105 SCALE DATE OCTOBER 20, 2017 PERMIT SET PHASE DRAWN HС CHECKED RL

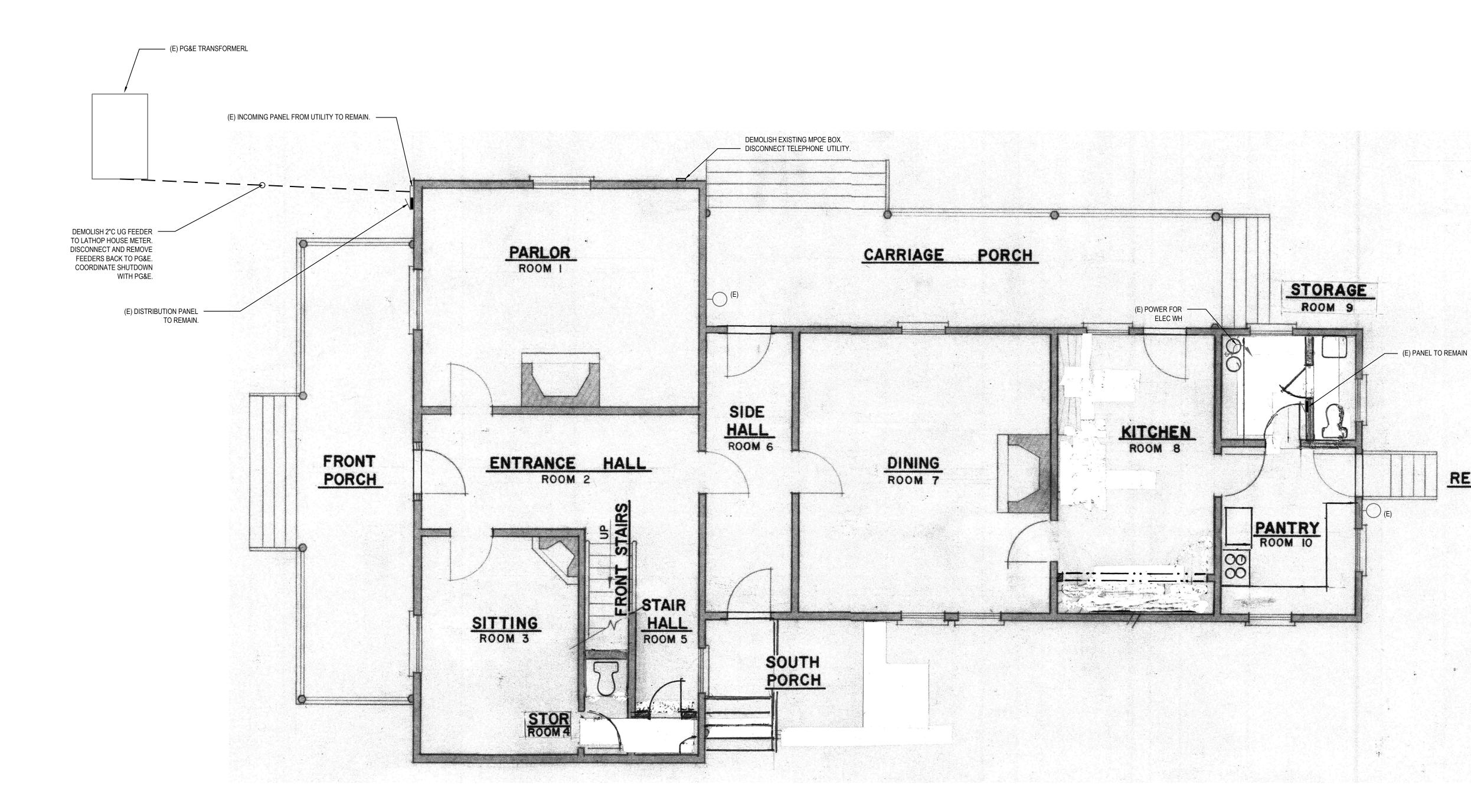
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SHEET INDEX

ELECTRICAL TITLE SHEET FLOOR PLAN ELECTRICAL DEMOLITION FLOOR PLAN ELECTRICAL PLAN



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FLOOR PLAN

ELECTRICAL DEMOLITION

 PROJ. NO.
 2016 - 105

 SCALE

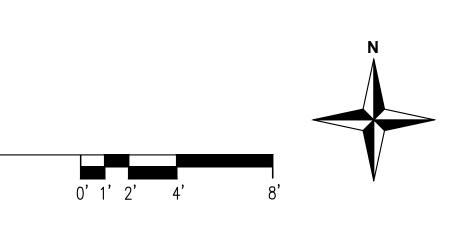
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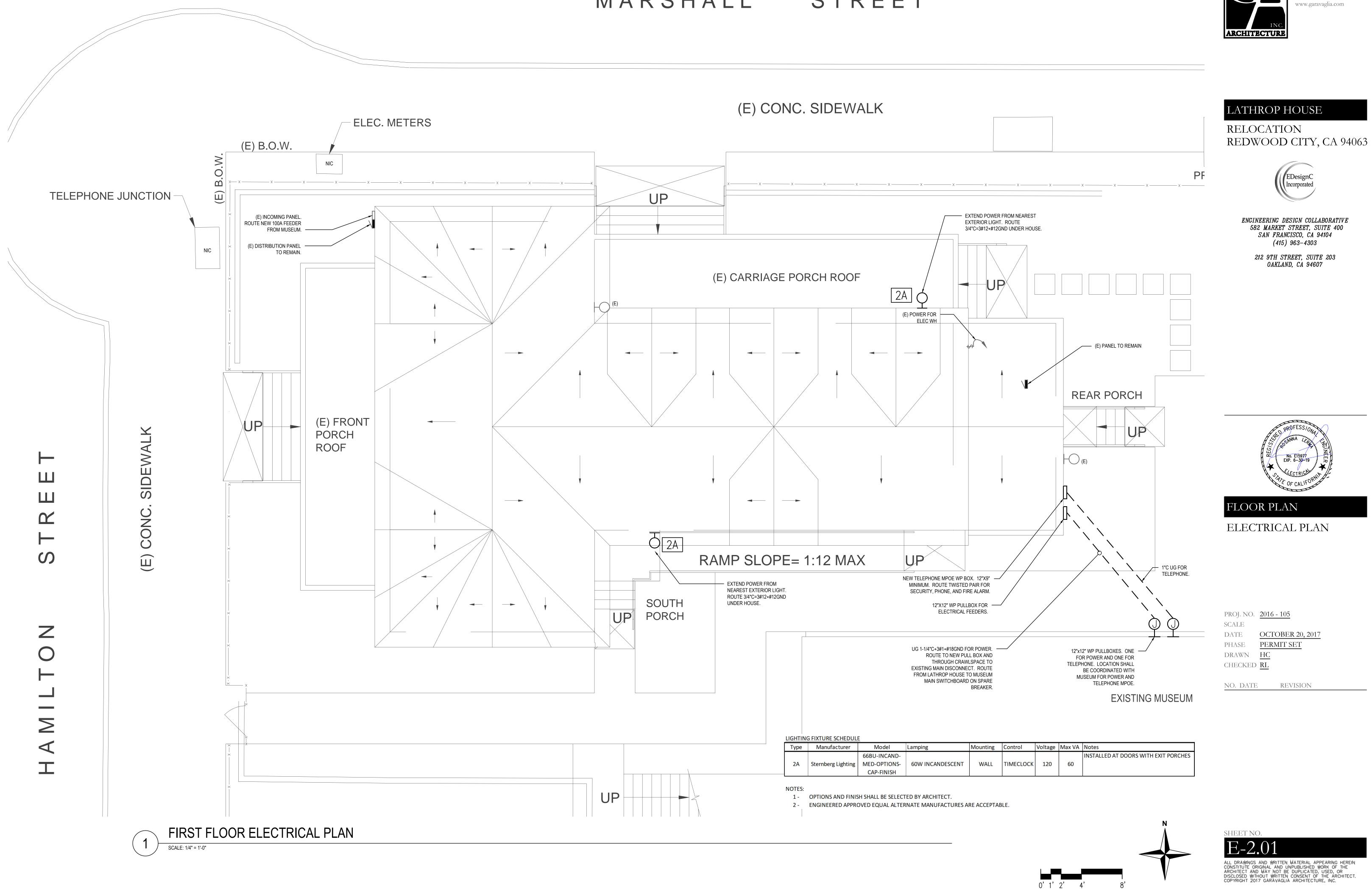


REAR PORCH

1



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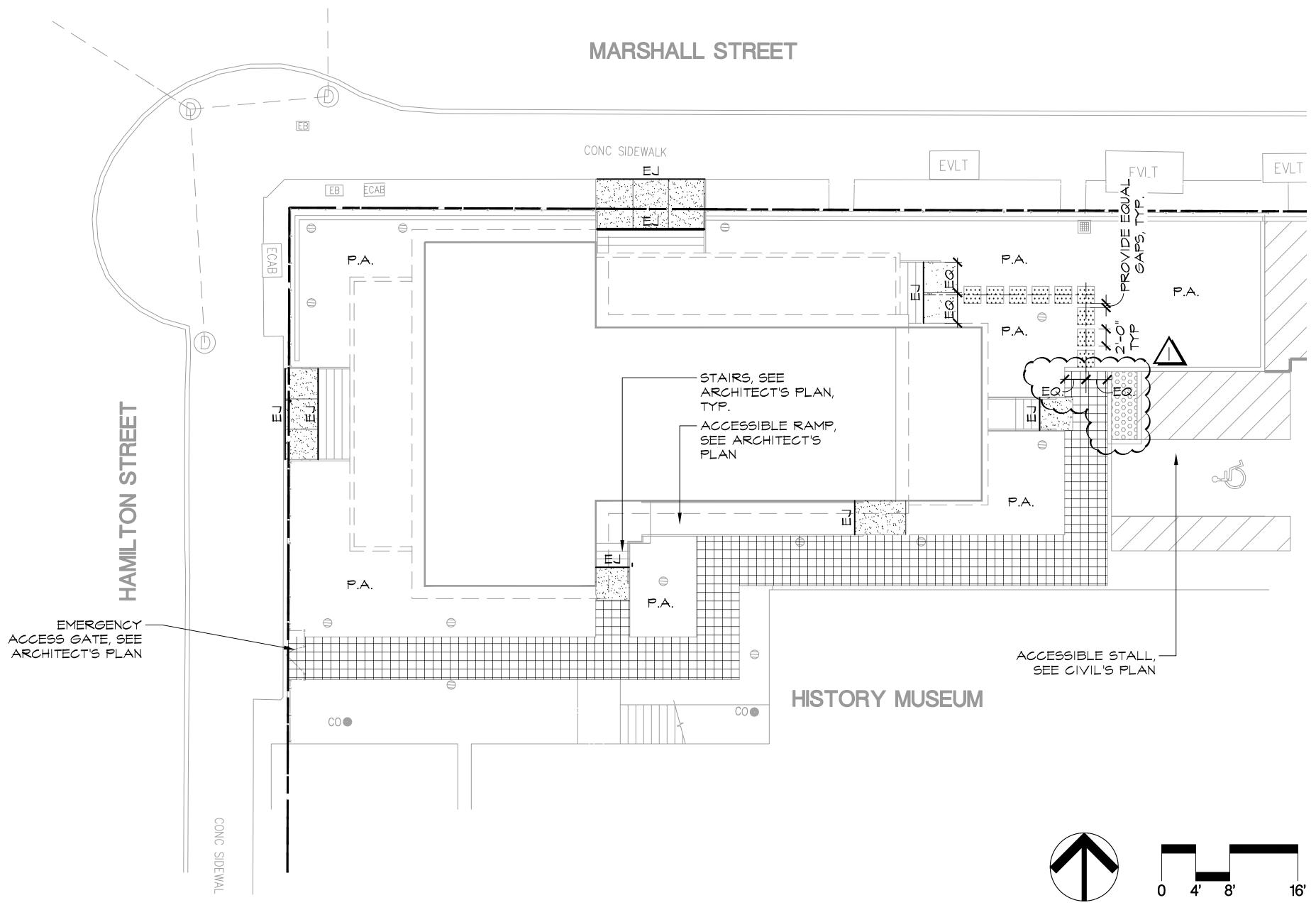


MARSHALL STREET



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	Mounting	Control	Voltage	Max VA	Notes
IDESCENT	WALL	TIMECLOCK	120	60	INSTALLED AT DOORS WITH EXIT PORCHES

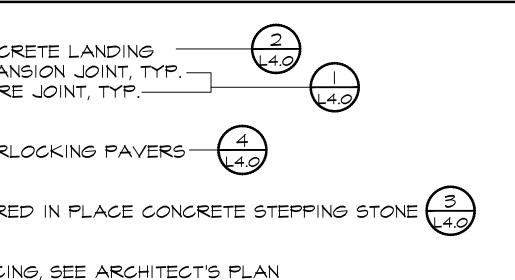


SITE CONSTRUCTION LEGEND

	- CONC - EXPA - SCOR
	INTER
	POUR
-xxx	FENCI
P.A.	PLAN

SITE CONSTRUCTION NOTES

- SLEEVING UNDER PAVING.
- CAREFULLY MATCHED TANGENTS.



NTING AREA

I. <u>DIMENSIONS</u>: ALL WRITTEN DIMENSIONS SUPERSEDE SCALED DIMENSIONS.

2. EXPANSION JOINTS: INSTALL EXPANSION JOINTS AS SHOWN ON DRAWINGS, AS WELL AS BETWEEN CONCRETE FLATWORK AND WALLS, CURBS, AND EXISTING FLATWORK OR STRUCTURES.

3. SLEEVING: REFER TO IRRIGATION PLAN FOR REQUIREMENTS OF

4. PROJECT STAKING: ALL PROPOSED SITE FEATURES SHALL BE STAKED IN FIELD FOR REVIEW BY THE CITY INSPECTOR PRIOR TO CONSTRUCTION. ALL CURVES SHALL BE SMOOTH AND CONTINUOUS WITH



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SITE CONSTRUCTION PLAN

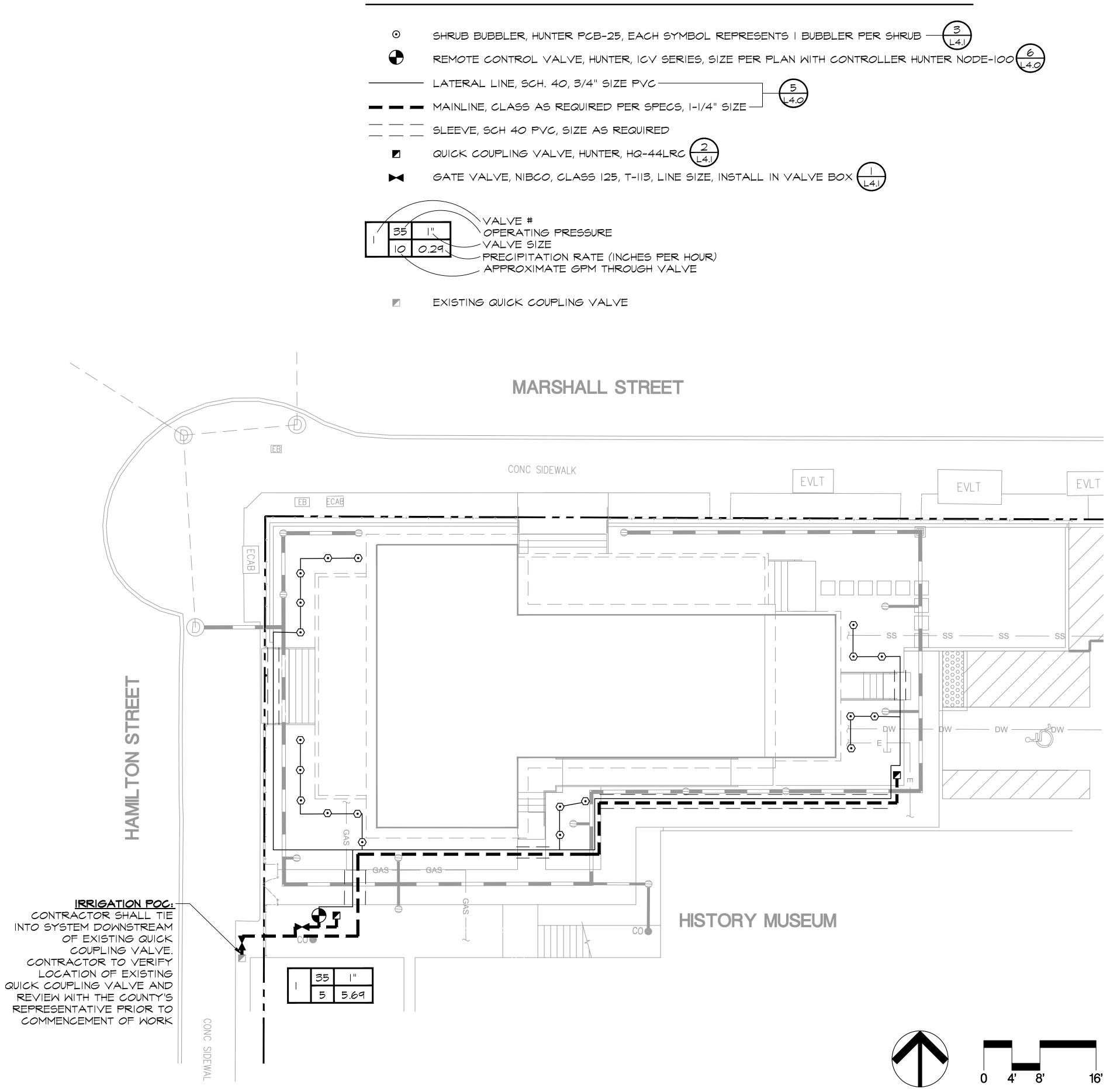
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IRRIGATION LEGEND



IRRIGATION NOTES

- INFORMATION.
- IRRIGATION WORK.
- SHRUB AREAS WHENEVER POSSIBLE.
- MARKED ABOVE GRADE.
- SWIVEL HOSE ELL.
- MANUFACTURER'S RECOMMENDATION

- EXISTING SYSTEM.

SPECIFICATIONS: SEE IRRIGATION SPECIFICATIONS FOR ADDITIONAL

2. VERIFICATION: SYSTEM DESIGN IS BASED ON 35 P.S.I. AND 5 G.P.M. AVAILABLE AT DISCHARGE OUTLET OF METER OR OTHER POINT OF CONNECTION. VERIFY SAME AND NOTIFY COUNTY'S REPRESENTATIVE IF LOWER FIGURES ARE RECORDED DURING VERIFICATION. SUCH NOTICE SHALL BE MADE IN WRITING AND PRIOR TO COMMENCING ANY

3. UTILITIES: VERIFY LOCATION OF ALL ON-SITE UTILITIES. RESTORATION OF DAMAGED UTILITIES SHALL BE MADE AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE COUNTY.

4. SCHEMATIC: SYSTEM FEATURES ARE SHOWN SCHEMATICALLY FOR GRAPHIC CLARITY. INSTALL ALL PIPING AND VALVES IN COMMON TRENCHES WHERE FEASIBLE AND INSIDE PLANTING AREAS WHENEVER POSSIBLE. ALL VALVES SHALL BE LOCATED IN GROUNDCOVER OR

5. CODES: IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODES AND MANUFACTURER'S SPECIFICATIONS. NOTIFY COUNTY'S REPRESENTATIVE BY TELEPHONE AND IN WRITING OF ANY CONFLICTS PRIOR TO INSTALLATION.

6. <u>SLEEVING:</u> ADEQUATELY SIZE ALL SLEEVES SHOWN ON PLAN. SLEEVES SHALL BE INSTALLED AT THE NECESSARY DEPTHS PRIOR TO PAVEMENT CONSTRUCTION. SLEEVING SHALL EXTEND I'-O" FROM EDGE OF PAVING INTO LAWN OR PLANTING AREA, AND SHALL HAVE ENDS CLEARLY

7. QUICK COUPLING VALVES: INSTALL ON TRIPLE SWING JOINT. LOCATE 12 INCHES AWAY FROM EDGE OF WALKS, WALLS, CURBS, AND HEADERBOARDS WITHIN PLANTING AREAS. PROVIDE COUNTY WITH ONE OPERATING KEY, TWO SETS OF LOCKING COVER KEYS, AND ONE

8. CONTROLLER: INSTALL CONTROLLER IN VALVE BOX PER

9. MAINLINE BREAK: SHOULD THE EXISTING MAINLINE BREAK OR BE SHUT OFF FOR ANY REASON DURING THE COURSE OF CONSTRUCTION THE CONTRACTOR SHALL HAND WATER ALL TREES, SHRUBS, TURF, AND GROUNDCOVER THAT THE EXISTING IRRIGATION SYSTEM WATERS. CONTINUE TO DO SO UNTIL THE IRRIGATION SYSTEM IS OPERABLE

IO. EXISTING IRRIGATION SYSTEM: CONTRACTOR SHALL ENSURE THAT ALL EXISTING IRRIGATION IS IN WORKING CONDITION AND NOT DAMAGED DURING CONSTRUCTION. CONTRACTOR SHALL CONDUCT A PRE AND POST CONSTRUCTION TEST TO ENSURE WORKING CONDITION AND DOCUMENT ALL EXISTING DEFICIENCIES IN THE SYSTEM. AND DAMAGES INCURRED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AND SHALL BE RESPONSIBLE FOR ALL ASSOCIATED FEES. THE CONTRACTOR SHALL MAINTAIN THE EXISTING IRRIGATION SYSTEM TO BE FULLY OPERATIONAL FOR AREAS OUTSIDE THE LIMIT OF WORK. IN CASE OF DAMAGE, CONTRACTOR SHALL HAND WATER UNTIL HE/SHE HAS FULLY REPAIRED IRRIGATION.

IO. IRRIGATION DISRUPTION: CONTRACTOR SHALL DETERMINE IF THE PROPOSED IRRIGATION SYSTEM WILL INTERFERE WITH EXISTING DEVICES ON THE MAINLINE INCLUDING BUT NOT LIMITED TO THE MASTER VALVE AND FLOW SENSOR. CONTRACTOR TO NOTIFY COUNTY'S REPRESENTATIVE IF PROPOSED IRRIGATION SYSTEM WILL DISRUPT THE



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IRRIGATION PLAN

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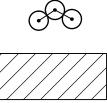
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PLANT LEGEND

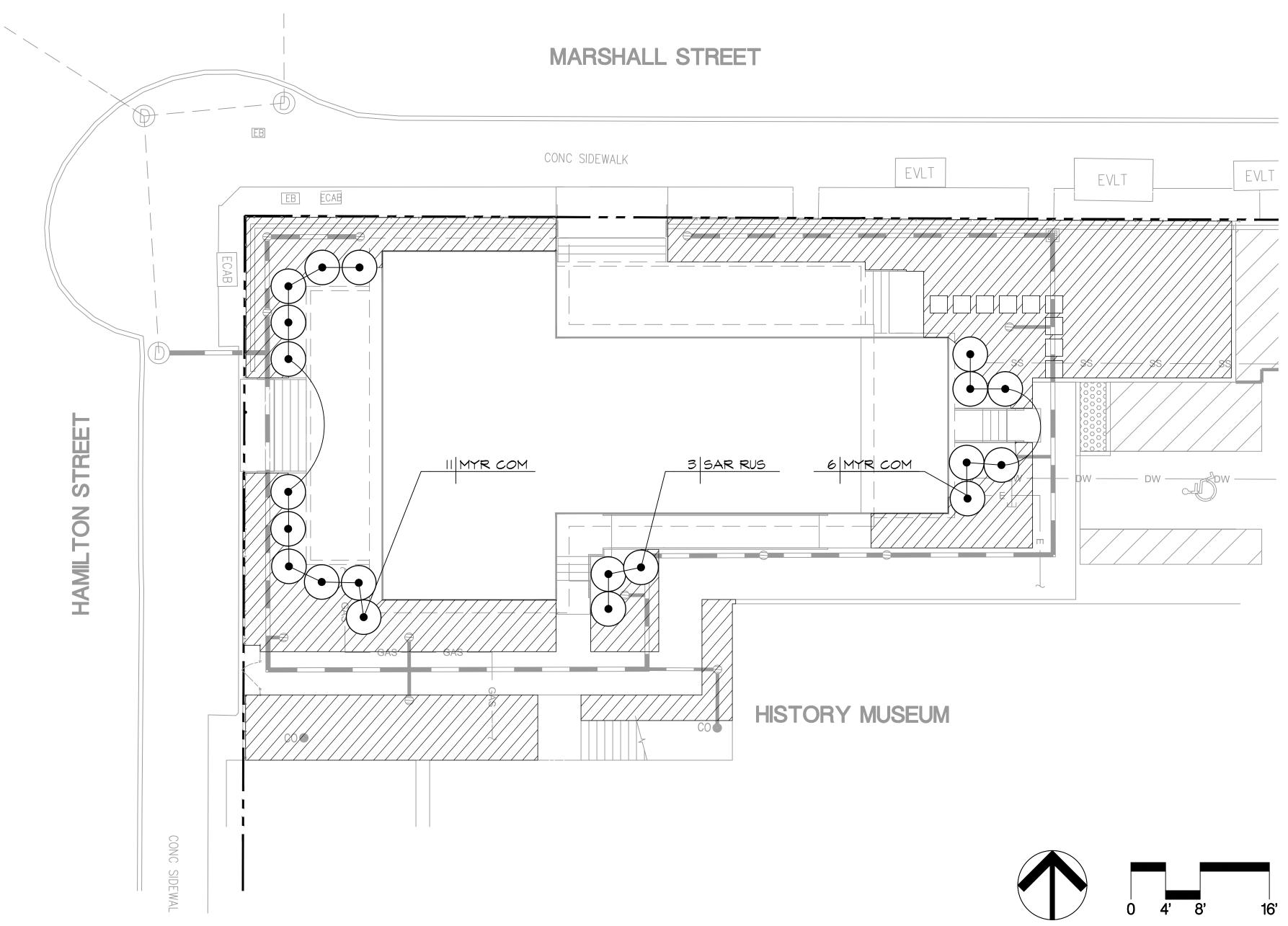


SHRUB MASS

MULCH, SEE NOTE #2

PI ANT I IST

ABBREV.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING		
<u>SHRUB</u> S						
MYR CUM	MYRTUS COMMUNIS 'COMPACTA'	MYRTLE	I GALLON	4'-0" O.C.		
SAR RUS	SARCOCOCCA RUSCIFOLSA	SWEET BOX	5 GALLON	4'-0" O.C.		



PLANTING NOTES

- EQUAL.

- DRAWINGS.
- IMPORT TOPSOIL PER SPECIFICATIONS.
- PRIOR TO CONSTRUCTION.

I. ACID PLANT MAINTENANCE: FERTILIZER APPLICATIONS OF "49ER BRAND ACID FOOD" SHALL CONTINUE THROUGH THE MAINTENANCE PERIOD IN QUANTITIES PER MANUFACTURER'S SPECIFICATIONS, AND IN FREQUENCIES AS FOLLOWS: SARCOCOCCA ONCE EVERY 60 DAYS

2. MULCH: INSTALL A UNIFORM THREE INCH COVERING OF WALK-ON MULCH, I-I/2" MAX PARTICLE SIZE, IN ALL AREAS TO BE PLANTED OR AS SHOWN ON PLANS. MATERIAL AVAILABLE FROM REDI-GRO, (800) 654-4358, OR

3. EXISTING PLANT MATERIAL: PROTECT ALL EXISTING PLANT MATERIAL TO REMAIN. REPAIR ANY DAMAGES INCURRED AS A DIRECT RESULT OF THIS CONTRACT TO THE OWNER'S SATISFACTION AT NO ADDITIONAL COST.

4. <u>GROUNDCOVER:</u> PROVIDE GROUNDCOVER AT INDICATED ON-CENTER SPACING THROUGHOUT ALL AREAS TO BE PLANTED. GROUNDCOVER SHALL BE PROVIDED UP TO THE WATERING BASIN OF ALL TREES AND SHRUBS.

5. QUANTITIES: THE QUANTITIES SHOWN ON THE LABELS ARE NOT TO BE CONSTRUED AS THE COMPLETE AND ACCURATE LIMITS OF THE CONTRACT. FURNISH AND INSTALL ALL PLANTS SHOWN SCHEMATICALLY ON THE

6. TOPSOIL: ALL PLANTING AREAS TO RECEIVE A SIX INCH LAYER OF

7. SOILS TESTING: SEE SPECIFICATIONS FOR TESTING OF TOPSOIL AND AMENDMENTS. IN ADDITION, CONTRACTOR SHALL SUBMIT A FIVE GALLON SAMPLE OF NATIVE TOPSOIL FROM ANY AREAS PREVIOUSLY COVERED BY PAVING, TO WAYPOINT ANALYTICAL, INC. OF SAN JOSE, (408) 727-0330, FOR CONTAMINATION TESTING. TESTING REQUIRES FOUR TO FIVE WEEKS. CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOR TESTING



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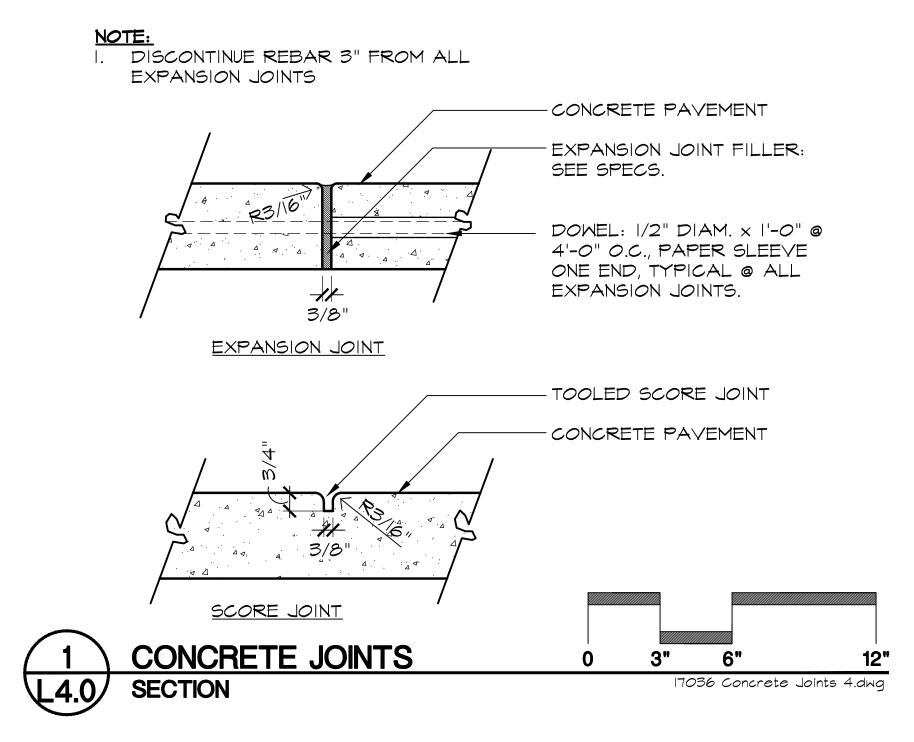
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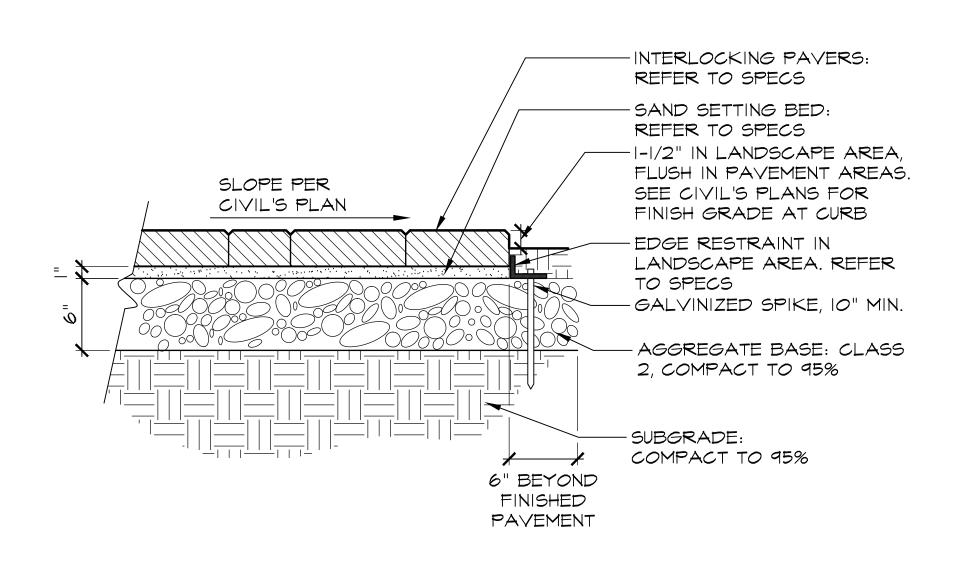
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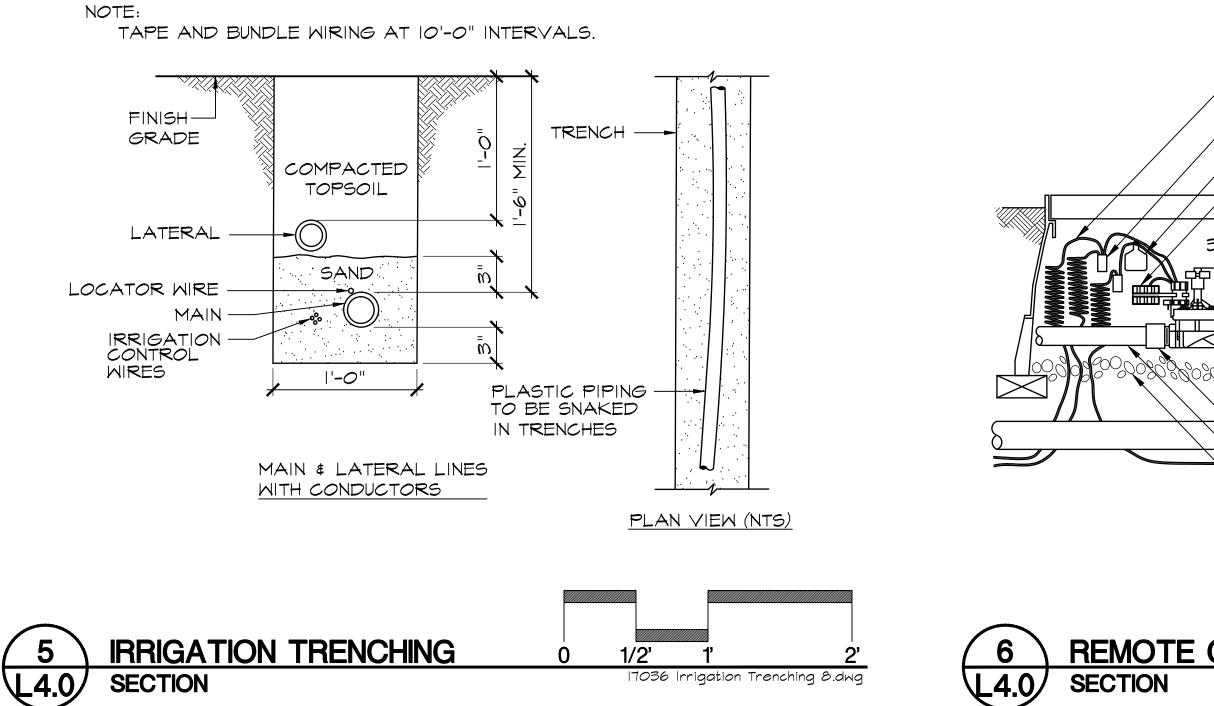
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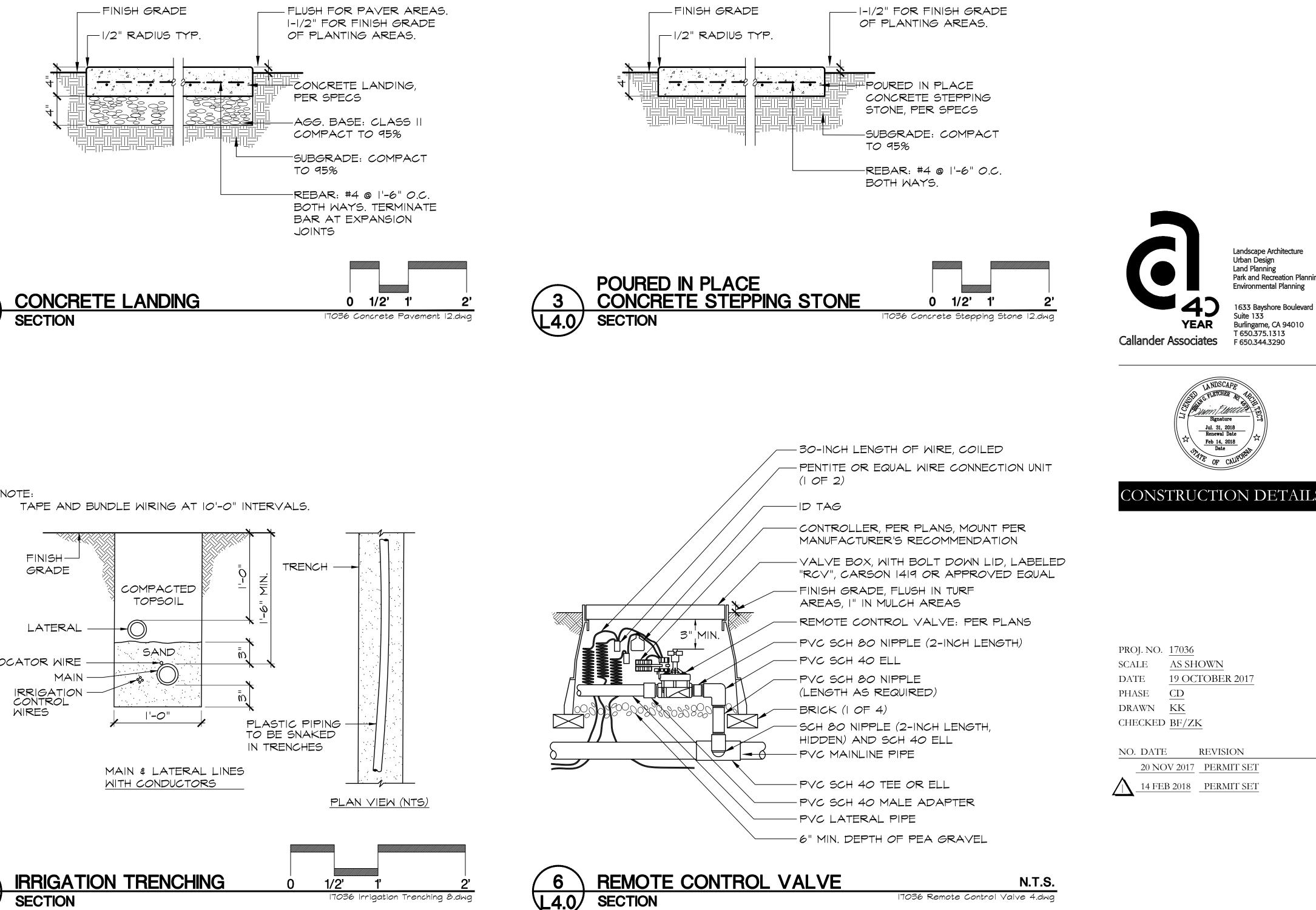














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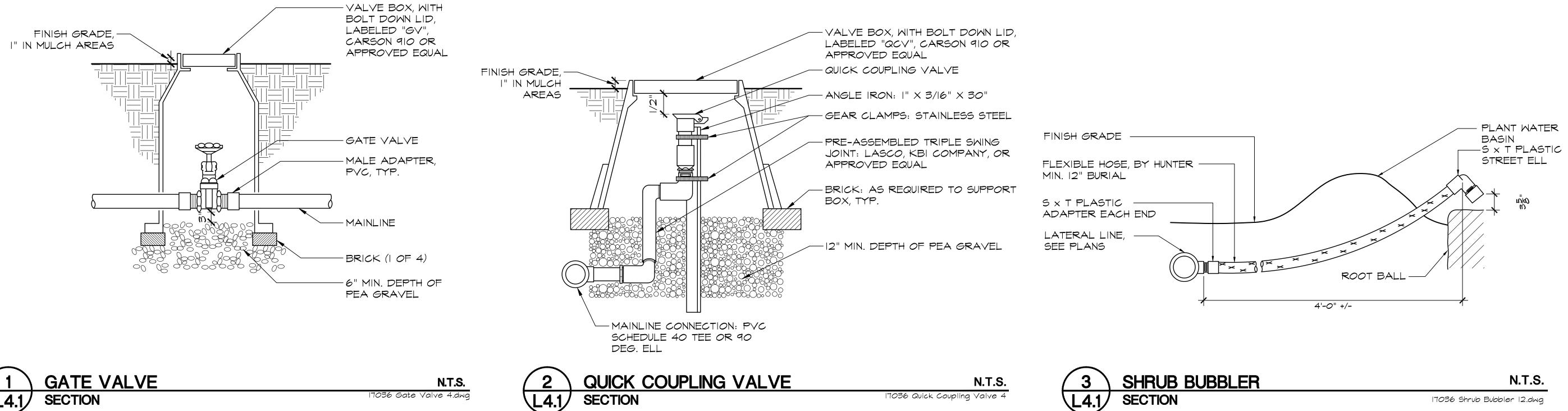
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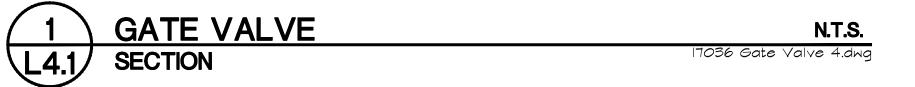
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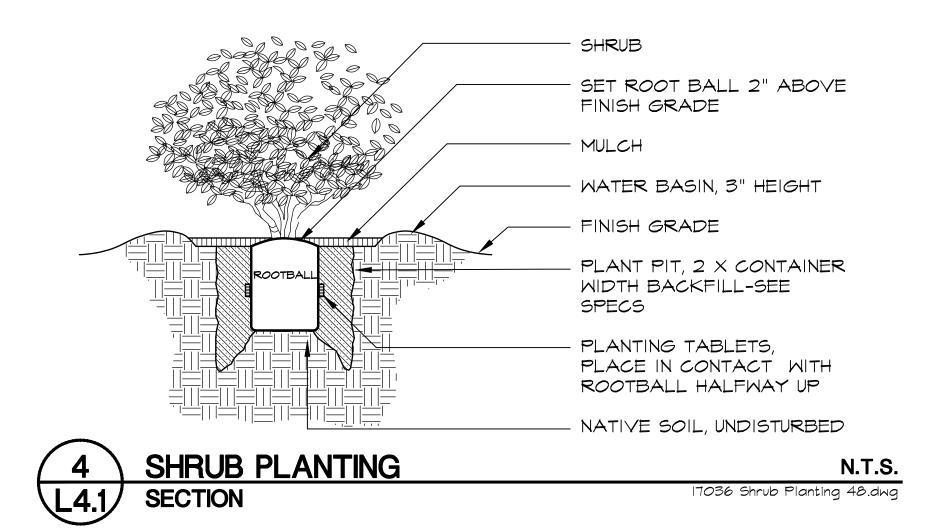
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CONSTRUCTION DETAIL

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