No. _____

City of Napa

PUBLIC WORKS DEPARTMENT

NAPA, CALIFORNIA

Notice Inviting Bids, Proposal, Contract

And Special Provisions

FOR

Earthquake Damage Repair – Historic Goodman Library (DR15BLDG)

Declaration No. FEMA-4193-DR-CA

PW Ref. No. Cine010

For use in connection with the Standard Specifications of the State of California Department of Transportation, 2010 Edition, the Standard Plans of the State of California Department of Transportation, 2010 Edition, and the Labor Surcharge and Equipment Rental Rates in effect on the date the work is accomplished.

Mandatory Pre-Bid Meeting and Job Walk Date:
December 15, 2016 at 9:30 A.M.

Pre-Bid Meeting and Job Walk Location:
Goodman Library Building – 1219 First Street, Napa, CA

Bid Opening Date:
January 5, 2017 at 3:00 P.M.

Bid Opening Location:
Public Works Department – 1600 First Street, Napa, CA

REGISTERED PROFESSIONAL ENGINEER
JOHN G. FERRONS
No. 59468
Exp. 12/31/17
11/29/16
CIVIL
STATE OF CALIFORNIA

Dated:
November 2016

City of Napa
Public Works Department
Earthquake Damage Repair – Historic Goodman Library
(DR15BLDG)
Declaration No. FEMA-4193-DR-CA
PW Ref. No. Cine010

Divisions 021600, 024119, 031000, 032000, 033000, 045000, 051200, 061000, 064023, 070150, 075423, 077123, 079200, 080152, 092000, 092900, 099000 and 148000 of the Specifications herein have been prepared by, or under the direction of, the following licensed professionals:

Architect

Stephen R. Cuddy

Napa Design Partners LLP, 855 Bordeaux Way Suite 250 Napa CA 94558

Structural Engineer

Kevin G. Zucco

ZFA Structural Engineers, 1303 Jefferson Street Suite 400A Napa CA 94559

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CITY OF NAPA
DEPARTMENT OF PUBLIC WORKS

NOTICE TO BIDDERS

SEALED PROPOSALS, will be received at the office of the Director of Public Works, Community Services Building, 1600 First Street (PO Box 660), Napa, California, until **3:00 p.m. on January 5, 2017** at which time they will be publicly opened and read for:

Earthquake Damage Repair – Historic Goodman Library (DR15BLDG)
Declaration No. FEMA-4193-DR-CA
PW Ref. No. Cine010

The work generally consists of the completion of earthquake damage repairs at the historic Goodman Library building including the reconstruction of the damaged structural stone walls, repair of miscellaneous cracked and dislodged wall stones; repair of a partially collapsed stone entry tower (including the installation of interior metal frame and exterior bracing along with the removal and disposal of a metal containment structure that was installed post-earthquake as a temporary safety measure); repair of damaged terra cotta entry columns and arch; mortaring, grouting and repointing of cracked stone walls; repair of interior wood framed walls including cracked plaster and dislodged wood lath; repair of dislodged interior metal tin ceiling tiles and trim; repair of wood trim; the installation of gusset plates to repair damaged wood roof trusses; the repair of parapet support rods that were installed as part of a previous seismic retrofit; the detachment from the Goodman Library of a metal fire escape stairway assembly that serves the neighboring building (including installation of a new structural support system); and various other architectural and structural repairs and finishes. The contractor will employ a qualified historic architectural consultant (per Secretary of Interior Standards Historic Preservation Professional Qualifications Standards) to monitor the work.

Proposal envelopes must be addressed to the "Director of Public Works, Community Services Building, 1600 First Street (PO Box 660), Napa, California 94559-0660" and the following information must be clearly written on the outside of the envelope: a) the name of the project being bid; b) the date of the bid opening; and c) the time of the bid opening.

Bids are required for the entire work described herein. You must possess a Class B license.

A **MANDATORY** pre-bid meeting and job walk is scheduled for **December 15, 2016 at 9:30 A.M.** at the City of Napa's Community Services Building, 1600 First Street, Napa California. The meeting will be an opportunity for prospective bidders to ask questions about the project and field review the work site.

On **December 1, 2016** one set of bid documents consisting of plans, specifications, and bidding and contractual documents and forms will be made available to each contractor identified on the bidders list.

All bids must be submitted on the bidding forms included in the bid documents.

Inquiries or questions based on alleged patent ambiguity of the plans, specifications, or estimate, must be communicated as a bidder inquiry prior to bid opening. Any such inquiries or questions, submitted after the bid opening, will not be treated as a bid protest.

The successful bidder must provide Performance and Payment (Labor and Materials) Bonds and are required to comply with the insurance requirements set forth in these Special Provisions.

This contract is subject to State contract nondiscrimination and compliance requirements pursuant to Government Code, Section 12990.

You are advised that, as required by federal law, the City is implementing new Disadvantaged Business Enterprise (DBE) requirements for Race-Conscious Disadvantaged Business Enterprises (RCDBE). Attention is directed to the section titled "Disadvantaged Business Enterprises (DBE)" and "Performance of Subcontractors" of these Special Provisions which cover the DBE requirements. The DBE contract **goal is 14%**.

The City of Napa affirms that in any contract entered into pursuant to this advertisement, DBE's will be afforded full opportunity to submit bids in response to this invitation.

Pursuant to Section 1773 of the Labor Code, the general prevailing wage rates in the County, or Counties, in which the work is to be done have been determined by the Director of the California Department of Industrial Relations. These wages are set forth in the General Prevailing Wage Rates for this project, available at City of Napa and available from the California Department of Industrial Relations' Internet web site at http://www.dir.ca.gov. Future effective general prevailing wage rates, which have been predetermined and are on file with the California Department of Industrial Relations are referenced but not printed in the general prevailing wage rates. The Federal minimum wage rates for this project as predetermined by the United States Secretary of Labor are set forth in Appendix C of these Special Provisions that may be examined at the offices described above where project plans, Special Provisions, and proposal forms may be seen. Addenda to modify the Federal minimum wage rates, if necessary, will be issued to holders of bid packages.

Pursuant to requirements under the California Labor Code recently introduced under SB 854 (Stat. 2014, chapter 28), bidders should be aware of several significant new requirements related to the Department of Industrial Relations (DIR) compliance and enforcement efforts with respect to prevailing wage requirements on public works projects.

- No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the DIR pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1 (a)]. Contractors and Subcontractors may register with the DIR at https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm
- No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with DIR pursuant to Labor Code section 1725.5.
- This project is subject to compliance monitoring and enforcement by the DIR.

In accordance with Section 22300 of the Public Contracts Code, securities may be substituted for monies withheld to ensure performance under this contract.

No bid will be accepted at the Public Works Director's office after the time specified for the opening of the bids. All bids must be submitted on the Bid Forms included in this Bid Book. All bids will be compared on the basis of the estimated quantities shown on the included Bid Schedule Form.

Cash, a certified check or bank draft, payable to the order of City of Napa, negotiable U.S. Government bonds (at par value), or a satisfactory bid bond executed by you and an acceptable surety, in an amount equal to ten percent (10%) of the total of bid, must be submitted with each bid.

Bids may be held by the City of Napa for a period not to exceed sixty (60) calendar days from the date of opening bids for the purpose of reviewing the bids and investigating the qualifications of bidders prior to awarding of the contract. The City of Napa reserves the right to reject any or all bids or to waive any informalities in the bidding.

Each bidder is hereby informed that, upon submittal of its bid to the City in accordance with these bid documents, the bid is the property of the City. The City will consider each bid subject to the public disclosure requirements of the California Public Records Act (California code section 6250, et seq.) after bid opening, unless there is a legal exception to public disclosure.

THIS PROJECT IS SUBJECT TO THE "BUY AMERICA" PROVISIONS OF THE SURFACE TRANSPORTATION ASSISTANCE ACT OF 1982 AS AMENDED BY THE INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991.

Attention is directed to the Federal minimum wage rate requirements located in Appendix C. If the minimum wage rates as determined by the United States Secretary of Labor differs from the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, the Contractor and subcontractors must not pay less than the higher wage rate. The Department does not accept lower State wage rates not specifically included in the federal minimum wage determinations. This includes helper, or other classifications based on hours of experience, or any other classification not appearing in the federal wage determinations. Where federal wage determinations do not contain the State wage rate determination otherwise available for use by the Contractor and subcontractors, the Contractor and subcontractors must not pay less than the federal minimum wage rate that most closely approximates the duties of the employees in question.

The U.S. Department of Transportation (DOT) provides a toll-free "hotline" service to report bid rigging activities Bid rigging activities can be reported Mondays through Fridays, between 8:00 a.m. and 5:00 p.m., eastern time, Telephone No. 1-800-424-9071. Anyone with knowledge of possible bid rigging, bidder collusion, or other fraudulent activities should use the "hotline" to report these activities. The "hotline" is part of the DOT's continuing effort to identify and investigate highway construction contract fraud and abuse and is operated under the direction of the DOT Inspector General. All information will be treated confidentially and caller anonymity will be respected.

Dated: _____

_____

Jacques R. LaRochelle

Public Works Director

City of Napa

* * * * * * * * * * * *

S P E C I A L N O T I C E

* * * * * * * * * * * *

This project includes, but is not limited to, the following special requirements:

- Bidder inquiries are to be directed to Ernie Cabral, Associate Civil Engineer, at the City of Napa Engineering Division at:

  Telephone No.: (707) 257-9386 or;

  Email: ecabral@cityofnapa.org

- Attention is directed to the sections titled, "Start of Job Site Activities and Time" and "Liquidated Damages," of these Special Provisions.

- A **MANDATORY** pre-bid meeting and job walk is scheduled for **December 15, 2016 at 9:30 a.m.** at the Goodman Library Building, 1219 First Street, Napa California. The meeting will be an opportunity for prospective bidders to ask questions about the project and field review the work site. The job walk will include access onto the existing scaffolding to view proposed repair work on the outside of the building. During the job walk, attending contractors are to bring and wear appropriate **safety equipment** (hardhats, boots & safety glasses).

- The approved bidders list may be obtained at the City Of Napa Public Works Department, 1600 First Street (PO Box 660), Napa, California 94559-0660. Telephone (707) 257-9520.

- Review insurance requirements with your insurance agent prior to submitting a bid proposal. Attention is directed to Section 3-1.18, "Contract Execution," of the Standard Specifications and the section titled, "Insurance," of these Special Provisions.

- The deadline for project related questions is **December 19, 2016 at 3:00 p.m.** All questions are to be provided via email as follows:

  Ernie Cabral, Associate Civil Engineer: ecabral@cityofnapa.org

The following forms have been included at the end of these Special Provisions to assist the successful bidder in early execution of the contract documents: Agreement, Faithful Performance Bond form, Payment Bond form, Warranty and Maintenance Bond form, Commercial General Liability Additional Insured Endorsement form, and a form for Certification per Public Contract Code 995.640(a).

PROPOSAL TO THE CITY OF NAPA

PUBLIC WORKS DEPARTMENT

Earthquake Damage Repair – Historic Goodman Library (DR15BLDG)

Declaration No. FEMA-4193-DR-CA

PW Ref. No. Cine010

NAME OF BIDDER _____

ADDRESS _____

CITY, STATE, ZIP CODE _____

TELEPHONE NO: **AREA CODE ( )** _____

FAX NO: **AREA CODE ( )** _____

CONTRACTOR LICENSE NO. _____

The work for which this proposal is submitted is for construction in conformance with the Special Provisions (including the payment of not less than the State general prevailing wage rates), the project plans described below, including any addenda thereto, the contract annexed hereto, and also in conformance with the City of Napa Standard Specifications and Standard Plans dated July 2008, the Standard Specifications of the State of California Department of Transportation, 2015 Edition, the Standard Plans of the State of California Department of Transportation, 2015 Edition, including any supplemental updates thereto, and the Labor Surcharge and Equipment Rental Rates in effect on the date the work is accomplished.

The Special Provisions for the work to be done are dated **November 2016** and are entitled:

CITY OF NAPA PUBLIC WORKS DEPARTMENT NAPA, CALIFORNIA NOTICE INVITING BIDS, PROPOSAL, CONTRACT AND SPECIAL PROVISIONS FOR:

EARTHQUAKE DAMAGE REPAIR – HISTORIC GOODMAN LIBRARY – (DR15BLDG)
DECLARATION NO. FEMA-4193-DR-CA
PW REF. NO. CINE010

The project plans for the work to be done were approved October 14, 2016 and are entitled:

CITY OF NAPA PUBLIC WORKS DEPARTMENT
EARTHQUAKE DAMAGE REPAIR – HISTORIC GOODMAN LIBRARY – (DR15BLDG)
DECLARATION NO. FEMA-4193-DR-CA
PW REF. NO. CINE010

Bids are to be submitted for the entire work. The amount of the bid for comparison purposes will be the total of all items.

The bidder shall set forth for each unit basis item of work a unit price and a total for the item, and for each lump sum item a total for the item, all in clearly legible figures in the respective spaces provided for that purpose. In the case of unit basis items, the amount set forth under the "Item Total" column shall be the product of the unit price bid and the estimated quantity for the item.

In case of discrepancy between the unit price and the total set forth for a unit basis item, the unit price shall prevail, except as provided in (a) or (b), as follows:

(a) If the amount set forth as a unit price is unreadable or otherwise unclear, or is omitted, or is the same as the amount as the entry in the item total column, then the amount set forth in the item total column for the item shall prevail and shall be divided by the estimated quantity for the item and the price thus obtained shall be the unit price;

(b) (Decimal Errors) If the product of the entered unit price and the estimated quantity is exactly off by a factor of ten, one hundred, etc., or one-tenth, or one-hundredth, etc. from the entered total, the discrepancy will be resolved by using the entered unit price or item total, whichever most closely approximates percentage-wise the unit price or item total in the Copy of Engineer's Estimate of cost.

If both the unit price and the item total are unreadable or otherwise unclear, or are omitted, the bid may be deemed irregular. Likewise if the item total for a lump sum item is unreadable or otherwise unclear, or is omitted, the bid may be deemed irregular unless the project being bid has only a single item and a clear, readable total bid is provided.

Symbols such as commas and dollar signs will be ignored and have no mathematical significance in establishing any unit price or item total or lump sums. Written unit prices, item totals and lump sums will be interpreted according to the number of digits and, if applicable, decimal placement. Cents symbols also have no significance in establishing any unit price or item total since all figures are assumed to be expressed in dollars and/or decimal fractions of a dollar. Bids on lump sum items shall be item totals only; if any unit price for a lump sum item is included in a bid and it differs from the item total, the items total shall prevail.

The foregoing provisions for the resolution of specific irregularities cannot be so comprehensive as to cover every omission, inconsistency, error or other irregularity which may occur in a bid. Any situation not specifically provided for will be determined in the discretion of the City of Napa , and that discretion will be exercised in the manner deemed by the City of Napa to best protect the public interest in the prompt and economical completion of the work. The decision of the City of Napa respecting the amount of a bid, or the existence or treatment of an irregularity in a bid, shall be final.

If this proposal shall be accepted and the undersigned shall fail to enter into the contract and furnish the two bonds in the sums required by the State Contract Act, with surety satisfactory to the City of Napa , and the insurance certificates within ten days, not including Saturdays, Sundays and legal holidays, after the bidder has received notice from the City of Napa that the contract has been awarded, the City of Napa may, at its option, determine that the bidder has abandoned the contract, and thereupon this proposal and the acceptance thereof shall be null and void and the forfeiture of the security accompanying this proposal shall operate and the same shall be the property of the City of Napa.

The Bidder has familiarized itself with the nature and extent of the Contract Documents, the Work, the site, the locality where the Work is to be performed, the legal requirements (federal, state and local laws, ordinances, rules, and regulations), and the conditions affecting cost, progress or performance of the Work, and has made such independent investigations as Bidder deems necessary.

The undersigned, as bidder, declares that the only persons or parties interested in this proposal as principals are those named herein; that this proposal is made without collusion with any other person, firm, or corporation; that he has carefully examined the location of the proposed work, the annexed proposed form of contract, and the plans therein referred to; and he proposes, and agrees if this proposal is accepted, that he will contract with the City of Napa, in the form of the copy of the contract annexed hereto, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements of the Engineer as therein set forth, and that he will take in full payment therefor the following prices, to wit:

BID SCHEDULE

Earthquake Damage Repair – Historic Goodman Library – (DR15BLDG)
Declaration No. FEMA-4193-DR-CA
PW Ref. No. Cine010

Item No.	Item	Unit of Measure	Estimated Quantity	Unit Price (In Figures)	Item Total (In Figures)
1	Mobilization	LS	1		
2	Control of Work	LS	1		
3	Control of Materials	LS	1		
4	Traffic Control	LS	1		
5	Water Pollution Control	LS	1		
6	Division 1 – Historic Treatment Procedures	LS	1		
7	Division 2 – Shoring and Project Safety	LS	1		
8	Division 2 – Selective Structure Demolition	LS	1		
9	Division 3 – Concrete Forming & Accessories	LS	1		
10	Division 3 – Concrete Reinforcing	LS	1		
11	Division 3 – Cast in Place Concrete	LS	1		
12	Division 4 – Masonry Restoration and Cleaning	LS	1		
13	Division 4 – Grout Injection	LS	1		
14	Division 5 – Structural Steel Framing	LS	1		
	Division 6 – Rough Carpentry	LS	1		
15	Division 6 – Interior Architectural Woodwork	LS	1		
16	Division 7 - Preparation for Re-roofing	LS	1		
17	Division 7 – Waterproofing	LS	1		
18	Division 7 – Thermoplastic-Polyolefin Roofing	LS	1		
19	Division 7 – Sheet Metal Scupper & Downspout	LS	1		
20	Division 7 – Joint Sealants	LS	1		
21	Division 8 – Historic Treatment of Wood Windows & Doors	LS	1		
22	Division 9 – Historic Plaster Repair	LS	1		
23	Division 9 – Gypsum Board	LS	1		
24	Division 9 – Flooring Repair	LS	1		
25	Division 9 – Painting and Coating	LS	1		
26	Division 14 - Scaffolding	LS	1		

TOTAL BID _____

LIST OF SUBCONTRACTORS

As required under Section 4100, et seq., of the Public Contract Code, the Bidder shall list below the name and business address of each subcontractor who will perform Work under this Bid in excess of one-half of one percent of the Contractors Total Bid Price or $10,000, whichever is greater. At the time of bid opening, the Contractor must provide the information under "Work To Be Performed", "Percent of Total Contract", "Contractor's License Number", and Subcontractor's Name and Address". After the opening of Bids, no changes or substitutions will be allowed except as otherwise provided by law. The listing of more than one subcontractor for each item of Work to be performed with the words "and/or" will not be permitted.

Failure to comply with any of the above List of Subcontractor requirements will render the Bid as non-responsive and may cause its rejection.

Work to be performed	Percent Total of Contract	Contractors License Number	Subcontractors Name and Address

ADDENDUM ACKNOWLEDGMENT

Bidder acknowledges receipt of the following addenda, which are attached to the proposal:

Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:
Addendum No.	Date:

EXHIBIT 15-G CONSTRUCTION CONTRACT DBE COMMITMENT

1. Local Agency: City of Napa 2. Contract DBE Goal: _____

3. Project Description: _____

4. Project Location: _____

5. Bidder's Name: _____ 6. Prime Certified DBE: ☐ 7. Bid Amount: _____

8. Total Dollar Amount for **ALL** Subcontractors: _____ 9. Total Number of **ALL** Subcontractors: _____

10. Bid Item Number	11. Description of Work, Service, or Materials Supplied	12. DBE Certification Number	13. DBE Contact Information (Must be certified on the date bids are opened)	14. DBE Dollar Amount

Local Agency to Complete this Section

21. Local Agency Contract Number: _____

22. Federal-Aid Project Number: _____

23. Bid Opening Date: _____

24. Contract Award Date: _____

Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate.

25. Local Agency Representative's Signature _____ 26. Date _____

27. Local Agency Representative's Name _____ 28. Phone _____

29. Local Agency Representative's Title _____

15. TOTAL CLAIMED DBE PARTICIPATION **$** _____ **%**

IMPORTANT: Identify all DBE firms being claimed for credit, regardless of tier. Names of the First Tier DBE Subcontractors and their respective item(s) of work listed above must be consistent, where applicable with the names and items of the work in the "Subcontractor List" submitted with your bid. Written confirmation of each listed DBE is required.

16. Preparer's Signature _____ 17. Date _____

18. Preparer's Name _____ 19. Phone _____

20. Preparer's Title _____

DISTRIBUTION: 1. Original – Local Agency
2. Copy – Caltrans District Local Assistance Engineer (DLAE). Failure to submit to DLAE within 30 days of contract execution may result in de-obligation of federal funds on contract. Include additional copy with award package.

ADA Notice: For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

INSTRUCTIONS – CONSTRUCTION CONTRACT DBE COMMITMENT

CONTRACTOR SECTION

1. Local Agency - Enter the name of the local or regional agency that is funding the contract.
2. Contract DBE Goal - Enter the contract DBE goal percentage as it appears on the project advertisement.
3. Project Location - Enter the project location as it appears on the project advertisement.
4. Project Description - Enter the project description as it appears on the project advertisement (Bridge Rehab, Seismic Rehab, Overlay, Widening, etc).
5. Bidder's Name - Enter the contractor's firm name.
6. Prime Certified DBE - Check box if prime contractor is a certified DBE.
7. Bid Amount - Enter the total contract bid dollar amount for the prime contractor.
8. Total Dollar Amount for ALL Subcontractors – Enter the total dollar amount for all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
9. Total number of ALL subcontractors – Enter the total number of all subcontracted contractors. SUM = (DBEs + all Non-DBEs). Do not include the prime contractor information in this count.
10. Bid Item Number - Enter bid item number for work, services, or materials supplied to be provided.
11. Description of Work, Services, or Materials Supplied - Enter description of work, services, or materials to be provided. Indicate all work to be performed by DBEs including work performed by the prime contractor's own forces, if the prime is a DBE. If 100% of the item is not to be performed or furnished by the DBE, describe the exact portion to be performed or furnished by the DBE. See LAPM Chapter 9 to determine how to count the participation of DBE firms.
12. DBE Certification Number - Enter the DBE's Certification Identification Number. All DBEs must be certified on the date bids are opened.
13. DBE Contact Information - Enter the name, address, and phone number of all DBE subcontracted contractors. Also, enter the prime contractor's name and phone number, if the prime is a DBE.
14. DBE Dollar Amount - Enter the subcontracted dollar amount of the work to be performed or service to be provided. Include the prime contractor if the prime is a DBE. See LAPM Chapter 9 for how to count full/partial participation.
15. Total Claimed DBE Participation - $: Enter the total dollar amounts entered in the "DBE Dollar Amount" column. %: Enter the total DBE participation claimed ("Total Claimed DBE Participation Dollars" divided by item "Bid Amount"). If the total % claimed is less than item "Contract DBE Goal," an adequately documented Good Faith Effort (GFE) is required (see Exhibit 15-H DBE Information - Good Faith Efforts of the LAPM).
16. Preparer's Signature - The person completing the DBE commitment form on behalf of the contractor's firm must sign their name.
17. Date - Enter the date the DBE commitment form is signed by the contractor's preparer.
18. Preparer's Name - Enter the name of the person preparing and signing the contractor's DBE commitment form.
19. Phone - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
20. Preparer's Title - Enter the position/title of the person signing the contractor's DBE commitment form.

LOCAL AGENCY SECTION

21. Local Agency Contract Number - Enter the Local Agency contract number or identifier.
22. Federal-Aid Project Number - Enter the Federal-Aid Project Number.
23. Bid Opening Date - Enter the date contract bids were opened.
24. Contract Award Date - Enter the date the contract was executed.
25. Local Agency Representative's Signature - The person completing this section of the form for the Local Agency must sign their name to certify that the information in this and the Contractor Section of this form is complete and accurate.
26. Date - Enter the date the DBE commitment form is signed by the Local Agency Representative.
27. Local Agency Representative's Name - Enter the name of the Local Agency Representative certifying the contractor's DBE commitment form.
28. Phone - Enter the area code and phone number of the person signing the contractor's DBE commitment form.
29. Local Agency Representative Title - Enter the position/title of the Local Agency Representative certifying the contractor's DBE commitment form.

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION

DBE CONFIRMATION

DES-OE-0102.13 (NEW 0512015)

Contract no.:

Name of DBE business:

Name of DBE representative:

DBE certification number:

Name of bidder:

Name of prime contractor if different from the bidder:

Name of representative of bidder or prime contractor:

Date:

Bid item number	Item of work and description of services to be subcontracted or materials to be provided [1]	Amount ($)
	Total	

[1] If 100% of an item is not to be performed or furnished by the DBE, describe the exact portion of the item to be performed or furnished.

As an authorized representative of a certified disadvantaged business enterprise, I confirm that my business was contacted by the bidder or prime contractor shown above regarding the contract shown above. If the bidder is awarded the contract, my business will enter into a contractual agreement with the bidder or prime contractor to perform the type and dollar amount of work shown on the DBE Commitment form.

I certify under penalty of perjury that the foregoing is true and correct.

Signature of DBE's authorized representative:

Printed name of DBE's authorized representative:

Title of DBE's authorized representative:

Date:

ADA Notice For individuals with sensory disabilities, this document is available in alternate formats. For alternate format information, contact the Forms Management Unit at (916) 445-1233, TTY 711, or write to Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

EXHIBIT 15-H DBE INFORMATION —GOOD FAITH EFFORTS

DBE INFORMATION - GOOD FAITH EFFORTS

Federal-aid Project No. Declaration No. FEMA-4193-DR-CA, PW Ref. No. Cine010

Bid Opening Date January 5, 2017

The City of Napa established a Disadvantaged Business Enterprise (DBE) goal of **14%** for this project. The information provided herein shows that a good faith effort was made.

Lowest, second lowest and third lowest bidders shall submit the following information to document adequate good faith efforts. Bidders should submit the following information even if the "Local Agency Bidder DBE Commitment" form indicates that the bidder has met the DBE goal. This will protect the bidder's eligibility for award of the contract if the administering agency determines that the bidder failed to meet the goal for various reasons, e.g., a DBE firm was not certified at bid opening, or the bidder made a mathematical error.

Submittal of only the "Local Agency Bidder DBE Commitment" form may not provide sufficient documentation to demonstrate that adequate good faith efforts were made.

The following items are listed in the Section entitled "Submission of DBE Commitment" of the Special Provisions:

A. The names and dates of each publication in which a request for DBE participation for this project was placed by the bidder (please attach copies of advertisements or proofs of publication):

Publications	Dates of Advertisement

B. The names and dates of written notices sent to certified DBEs soliciting bids for this project and the dates and methods used for following up initial solicitations to determine with certainty whether the DBEs were interested (please attach copies of solicitations, telephone records, fax confirmations, etc.):

Names of DBEs Solicited	Date of Initial Solicitation	Follow Up Methods and Dates

Earthquake Damage Repair
Historic Goodman Library (DR15BLDG)

C. The items of work which the bidder made available to DBE firms including, where appropriate, any breaking down of the contract work items (including those items normally performed by the bidder with its own forces) into economically feasible units to facilitate DBE participation. It is the bidder's responsibility to demonstrate that sufficient work to facilitate DBE participation was made available to DBE firms.

Items of Work	Bidder Normally Performs Item (Y/N)	Breakdown of Items	Amount ($)	Percentage Of Contract

D. The names, addresses and phone numbers of rejected DBE firms, the reasons for the bidder's rejection of the DBEs, the firms selected for that work (please attach copies of quotes from the firms involved), and the price difference for each DBE if the selected firm is not a DBE:

Names, addresses and phone numbers of rejected DBEs and the reasons for the bidder's rejection of the DBEs:

_____
_____
_____
_____

Names, addresses and phone numbers of firms selected for the work above:

_____
_____
_____
_____

E. Efforts made to assist interested DBEs in obtaining bonding, lines of credit or insurance, and any technical assistance or information related to the plans, specifications and requirements for the work which was provided to DBEs:

_____
_____
_____
_____

F. Efforts made to assist interested DBEs in obtaining necessary equipment, supplies, materials or related assistance or services, excluding supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate:

_____
_____
_____
_____

G. The names of agencies, organizations or groups contacted to provide assistance in contacting, recruiting and using DBE firms (please attach copies of requests to agencies and any responses received, i.e., lists, Internet page download, etc.):

Name of Agency/Organization	Method/Date of Contact	Results

H. Any additional data to support a demonstration of good faith efforts (use additional sheets if necessary):

_____
_____

NOTE: USE ADDITIONAL SHEETS OF PAPER IF NECESSARY.

Earthquake Damage Repair
Historic Goodman Library (DR15BLDG)

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

State of California)
County of _____) ss.
)

_____, being first duly sworn, deposes and says that he or she is_____ of _____ the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid."

Note: The above Noncollusion Affidavit is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Noncollusion Affidavit. Notarizing this document is not required.
Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

_____

SIGNATURE SHEET

Accompanying this proposal is _____
(Insert the words "cash($ _____)," "cashier's check," "certified check," or "bidder's bond," as the case may be.)
in amount equal to at least ten percent of the total of the bid.

IMPORTANT NOTICE

If bidder or other interested person is a corporation, state legal name of corporation, also names of the president, secretary, treasurer, and manager authorized to sign contracts; if a copartnership, state true name of firm, also names of all individual copartners composing firm authorized to sign contracts; if bidder or other interested person is an individual, state first and last names in full.

The names of all persons interested in the foregoing proposal as principals are as follows:

_____

_____

_____

_____

Licensed in conformance with an act providing for the registration of Contractors,

License No. _____ Classification(s) _____

ADDENDA

This Proposal is submitted with respect to the changes to the contract included in addenda number/s _____.
(Fill in addenda numbers if addenda have been received and insert, in this Proposal, any Engineer's Estimate sheets that were received as part of the addenda.)

To all the foregoing, and including all Bid Schedule(s), List of Subcontractors, Non-collusion Affidavit, Bidder's General Information and Bid Bond contained in these Bid Forms, said Bidder further agrees to complete the Work required under the Contract Documents within the Contract Time stipulated in said Contract Documents and to accept in full payment therefore the Contract Price based on the Lump Sum or Unit Bid Price(s) named in the aforementioned Bidding Schedule(s).

By my signature on this proposal I certify, under penalty of perjury under the laws of the State of California and the United States of America, that the Noncollusion Affidavit required by Public Contract Code Section 7106 is true and correct.

Date: _____

Bidder: _____

By: _____
Signature

Title: _____

CITY OF NAPA DEPARTMENT OF PUBLIC WORKS
BIDDER'S BOND

We, _____
_____ as Principal, and
_____
as Surety are bound unto the City of Napa, State of California, hereafter referred to as "Obligee", in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the Obligee for the work described below, for the payment of which sum we bind ourselves, jointly and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

WHEREAS, the Principal is submitted to the Obligee, for _____
,
_____
(Copy here the exact description of work, including location as it appears on the proposal)
_____

for which bids are to be opened at _____ on _____
(Insert place where bids will be opened) *(Insert date of bid opening)*

NOW, THEREFORE, if the Principal is awarded the contract and, within the time and manner required under the specifications, after the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed form, in conformance with the bid, and files two bonds with the Obligee, one to guarantee faithful performance of the contract and the other to guarantee payment for labor and materials as provided by law, then this obligation shall be null and void; otherwise, it shall remain in full force.

The surety, for value received, hereby stipulates and agrees that the obligation of said surety and its bond shall in no way be impaired or affected by any extension of time within which the City of Napa may accept such bid; and Surety does hereby waive notice of any such extension.

In the event suit is brought upon this bond by the Obligee and judgement is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorney's fee to be fixed by the court.

Dated: _____ , 20____.

_____
_____
_____
Principal
_____
Surety
By _____
Attorney-in-fact

CERTIFICATE OF ACKNOWLEDGEMENT

State of California
City/County of _____ SS

On this _____ day of _____ in the year 20 __ before me
_____ , personally appeared _____ ,
Attorney-in-fact
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to this instrument as the attorney-in-fact of _____,
and acknowledged to me that he (she) subscribed the name of the said company thereto as surety, and his (her) own name as attorney-in-fact.

(SEAL) _____
Notary Public

PUBLIC CONTRACT CODE

Public Contract Code Section 10285.1 Statement

In conformance with Public Contract Code Section 10285.1 (Chapter 376, Stats. 1985), the bidder hereby declares under penalty of perjury under the laws of the State of California that the bidder has ___ , has not ____been convicted within the preceding three years of any offenses referred to in that section, including any charge of fraud, bribery, collusion, conspiracy, or any other act in violation of any state or Federal antitrust law in connection with the bidding upon, award of, or performance of, any public works contract, as defined in Public Contract Code Section 1101, with any public entity, as defined in Public Contract Code Section 1100, including the Regents of the University of California or the Trustees of the California State University. The term "bidder" is understood to include any partner, member, officer, director, responsible managing officer, or responsible managing employee thereof, as referred to in Section 10285.1.

Note: The bidder must place a check mark after "has" or "has not" in one of the blank spaces provided. The above Statement is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement. Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

Public Contract Code Section 10162 Questionnaire

In conformance with Public Contract Code Section 10162, the Bidder shall complete, under penalty of perjury, the following questionnaire:

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a federal, state, or local government project because of a violation of law or a safety regulation?

Yes _____ No _____

If the answer is yes, explain the circumstances in the following space.

Public Contract Code 10232 Statement

In conformance with Public Contract Code Section 10232, the Contractor, hereby states under penalty of perjury, that no more than one final unappealable finding of contempt of court by a federal court has been issued against the Contractor within the immediately preceding two year period because of the Contractor's failure to comply with an order of a federal court which orders the Contractor to comply with an order of the National Labor Relations Board.

Note: The above Statement and Questionnaire are part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Statement and Questionnaire.

Bidders are cautioned that making a false certification may subject the certifier to criminal prosecution.

DEBARMENT AND SUSPENSION CERTIFICATION

TITLE 49, CODE OF FEDERAL REGULATIONS, PART 29

The bidder, under penalty of perjury, certifies that, except as noted below, he/she or any other person associated therewith in the capacity of owner, partner, director, officer, manager:

- is not currently under suspension, debarment, voluntary exclusion, or determination of ineligibility by any Federal agency;
- has not been suspended, debarred, voluntarily excluded or determined ineligible by any Federal agency within the past 3 years;
- does not have a proposed debarment pending; and
- has not been indicted, convicted, or had a civil judgement rendered against it by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

If there are any exceptions to this certification, insert the exceptions in the following space.

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted above, indicate below to whom it applies, initiating agency, and dates of action.

Notes: Providing false information may result in criminal prosecution or administrative sanctions. The above certification is part of the Proposal. Signing this Proposal on the signature portion thereof shall also constitute signature of this Certification.

EQUAL EMPLOYMENT OPPORTUNITY CERTIFICATION

The bidder_____, proposed subcontractor _____, hereby certifies that he has ___ , has not ____, participated in a previous contract or subcontract subject to the equal opportunity clauses, as required by Executive Orders 10925, 11114, or 11246, and that, where required, he has filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity, all reports due under the applicable filling requirements.

Note: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of $10,000 or under are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7(b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

NONLOBBYING CERTIFICATION

FOR FEDERAL-AID CONTRACTS

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(l) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in conformance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

DISCLOSURE OF LOBBYING ACTIVITIES

COMPLETE THIS FORM TO DISCLOSE LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

1. Type of Federal Action:

☐ a. contract
b. grant
c. cooperative agreement
d. loan
e. loan guarantee
f. loan insurance

2. Status of Federal Action:

☐ a. bid/offer/application
b. initial award
c. post-award

3. Report Type:

☐ a. initial
b. material change

For Material Change Only:
Year_____quarter_____
date of last report _____

4. Name and Address of Reporting Entity

☐ Prime ☐ Subawardee
Tier_____, (if known)

Congressional District, if known

5. If Reporting Entity in No. 4 is Subawardee,
Enter Name and Address of Prime:

Congressional District, if known

6. Federal Department/Agency:

7. Federal Program Name/Description:

CFDA Number, if applicable_____

8. Federal Action Number, if known:

9. Award Amount, if known:

10. a. Name and Address of Lobby Entity
(If individual, last name, first name, MI)

b. Individuals Performing Services (including address if different from No. 10a)
(last name, first name, MI)

(attach Continuation Sheet(s) if necessary)

11. Amount of Payment (check all that apply)

$_____ ☐ actual ☐ planned

12. Form of Payment (check all that apply):

☐ a. cash
☐ b. in-kind; specify: nature_____
value_____

13. Type of Payment (check all that apply)

☐ a. retainer
☐ b. one-time fee
☐ c. commission
☐ d. contingent fee
☐ e deferred
☐ f. other, specify_____

14. Brief Description of Services Performed or to be performed and Date(s) of Service, including officer(s), employee(s), or member(s) contacted, for Payment Indicated in Item 11:

(attach Continuation Sheet(s) if necessary)

15. Continuation Sheet(s) attached: Yes ☐ No ☐

16. Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying reliance was placed by the tier above when his transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to Congress semiannually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Signature:_____

Print Name:_____

Title:_____

Telephone No.:_____Date:_____

Authorized for Local Reproduction

Federal Use Only:	Standard Form - LLL

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of covered Federal action or a material change to previous filing pursuant to title 31 U.S.C. section 1352. The filing of a form is required for such payment or agreement to make payment to lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress an officer or employee of Congress or an employee of a Member of Congress in connection with a covered Federal action. Attach a continuation sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence, the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last, previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District if known. Check the appropriate classification of the reporting entity that designates if it is or expects to be a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the first tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in Item 4 checks "Subawardee" then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organization level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identification in item 1 (e.g., Request for Proposal (RFP) number, Invitation for Bid (IFB) number, grant announcement number, the contract grant. or loan award number, the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitments for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influenced the covered Federal action.
    (b) Enter the full names of the individual(s) performing services and include full address if different from 10 (a). Enter Last Name, First Name and Middle Initial (MI).
11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.
12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.
13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.
14. Provide a specific and detailed description of the services that the lobbyist has performed or will be expected to perform and the date(s) of any services rendered. Include all preparatory and related activity not just time spent in actual contact with Federal officials. Identify the Federal officer(s) or employee(s) contacted or the officer(s) employee(s) or Member(s) of Congress that were contacted.
15. Check whether or not a continuation sheet(s) is attached.
16. The certifying official shall sign and date the form, print his/her name title and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503. SF-LLL-Instructions Rev. 06-04-90

FOR INFORMATION ONLY – NOT TO BE SUBMITTED WITH BID

AGREEMENT

CITY OF NAPA
STATE OF CALIFORNIA

THIS AGREEMENT is made and entered into by and between the City of Napa, a Municipal Corporation, hereinafter called "City" and [Click here and insert Contractor] **,** hereinafter called "Contractor," for the Earthquake Damage Repair – Historic Goodman Library (DR15BLDG)

RECITALS

City has taken appropriate proceedings to authorize construction of the public work and improvements herein provided and execution of this contract.

A notice was duly published for bids, and bids were received for the improvement hereinafter described.

On [Click here and insert date of award], after notice duly given, the City Council of the City of Napa awarded the contract for the construction of the improvement hereinafter described to Contractor, which Contractor said Council found to be the lowest responsive and responsible bidder for construction of said improvement.

City and Contractor desire to enter into this Agreement for the construction of said improvements.

THE PARTIES HERETO AGREE AS FOLLOWS:

1. Contract Documents

The complete contract consists of the following documents:

A. The Notice to Bidders
B. The Special Provisions
C. The Bid Proposal Forms
D. This Agreement
E. The Standard Specifications of the State of California Department of Transportation, 2015 Edition
F. The Standard Plans of the State of California Department of Transportation, 2015 Edition
G. The Faithful Performance Bond, Labor and Material Bond, and Warranty/Maintenance Bond
H. City of Napa Standard Specifications and Standard Plans, dated July 2008
I. Project drawings for the Earthquake Damage Repair – Historic Goodman Library (DR15BLDG) consisting of 31 sheets, Drawing # CB 15-006.
J. Federal Minimum Wages

All rights and obligations of City and Contractor are fully set forth and described in the contract documents.

All of the above-named documents are intended to cooperate so that any work called for in one and not mentioned in the other, or vice versa, is to be executed the same as if mentioned in all said documents. The documents comprising the complete contract will hereinafter be referred to as "the contract documents."

2. Scope of Work

The scope of work is described in the contract documents.

3. Performance of Work

Contractor shall furnish all tools, equipment, apparatus, facilities, labor and materials necessary to perform and complete in a good and workmanlike manner the work of construction as called for, and in the time and manner designated in, and in strict conformity with, the contract documents for said work.

The equipment, apparatus, facilities, labor and material shall be furnished, and said work performed and completed, as required in said plans and specifications under the direction and supervision, and subject to the approval, of the City Engineer of the City of Napa, or his designated assistant or assistants.

Contractor agrees to observe the provisions of Section 2.92.040 of the Napa Municipal Code obligating every Contractor or subcontractor under a contract or subcontract to the City of Napa for Public Works, subject to Section 101, Napa City Charter, in the sum of $25,000 or more, to refrain from discriminatory employment practices on the basis of sex, race, color, religious creed, national origin or ancestry of any employee of, or applicant for employment with, such Contractor or subcontractor. Said Section 2.92.040 of the Napa Municipal Code is by reference made a part of this contract.

4. Compliance with Department of Industrial Relations Contractor Registration Requirement

Pursuant to requirements under the California Labor Code, Contractor hereby acknowledges its affirmative obligations related to the Department of Industrial Relations (DIR) compliance and enforcement efforts with respect to prevailing wage requirements on public works projects.

a. No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the DIR pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1 (a)]. Contractors and Subcontractors may register with the DIR at https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm
b. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with DIR pursuant to Labor Code section 1725.5.

This construction of the improvements under this Agreement is subject to compliance monitoring and enforcement by the DIR.

5. Contract Price

City shall pay, and Contractor shall accept, in full payment for the work agreed to be done, the dollar amounts shown on the attached Bid Schedule. Increases or decreases in the contract quantities shall operate in the manner provided for in the contract documents. Payment in installments shall be as provided for in the contract documents.

6. Extra and/or Additional Work and Changes

Should City at any time during the progress of said work request any alterations, deviations, additions or omissions from said plans, specifications or other contract documents, it shall be at liberty to do so and the same shall in no way affect or make void the contract. The value of such will be added to, or deducted from, the contract price, as the case may be, in accordance with the provisions for such contained in the contract documents.

7. Provisions Cumulative

The provisions of this Agreement are cumulative and in addition to, and not in limitation of, any other rights or remedies available to City.

8. Notices

All notices shall be in writing and delivered in person or transmitted by certified mail, postage prepaid. Notices required to be given to City shall be addressed as follows:

City of Napa
P.O. Box 660
955 School Street
Napa, CA 94559
Attn: Public Works Department

FOR INFORMATION ONLY – NOT TO BE SUBMITTED WITH BID

Notices required to be given to Contractor shall be addressed as follows:

[Click here and insert Contractor]

[Click here and insert address]

[Click here and insert City]

Notices required to be given to Sureties of Contractor shall be addressed as follows:

[Click here and insert Surety Company]

c/o [Click here and insert Surety]

[Click here and insert address]

[Click here and insert City]

DATED this _____ day of _____, 200 __.

CITY OF NAPA, a Municipal Corporation

_____
Jacques R. LaRochelle,
Public Works Director

ATTEST:

_____
Dorothy Roberts, City Clerk

COUNTERSIGNED:

_____
Desiree Brun, City Auditor

APPROVED AS TO FORM:

_____
Michael W. Barrett, City Attorney

Budget Code DR15BLDG

CONTRACTOR: (Name and form of organization)

Contractors License No.

By:_____
Name and Title

By:_____
Name and Title

FOR INFORMATION ONLY – NOT TO BE SUBMITTED WITH BID

BID SCHEDULE

Item No.	Item	Unit of Measure	Estimated Quantity	Unit Price (In Figures)	Item Total (In Figures)
1	Mobilization	LS	1		
2	Control of Work	LS	1		
3	Control of Materials	LS	1		
4	Traffic Control	LS	1		
5	Water Pollution Control	LS	1		
6	Division 1 – Historic Treatment Procedures	LS	1		
7	Division 2 – Shoring and Project Safety	LS	1		
8	Division 2 – Selective Structure Demolition	LS	1		
9	Division 3 – Concrete Forming & Accessories	LS	1		
10	Division 3 – Concrete Reinforcing	LS	1		
11	Division 3 – Cast in Place Concrete	LS	1		
12	Division 4 – Masonry Restoration and Cleaning	LS	1		
13	Division 4 – Grout Injection	LS	1		
14	Division 5 – Structural Steel Framing	LS	1		
	Division 6 – Rough Carpentry	LS	1		
15	Division 6 – Interior Architectural Woodwork	LS	1		
16	Division 7 - Preparation for Re-roofing	LS	1		
17	Division 7 – Waterproofing	LS	1		
18	Division 7 – Thermoplastic-Polyolefin Roofing	LS	1		
19	Division 7 – Sheet Metal Scupper & Downspout	LS	1		
20	Division 7 – Joint Sealants	LS	1		
21	Division 8 – Historic Treatment of Wood Windows & Doors	LS	1		
22	Division 9 – Historic Plaster Repair	LS	1		
23	Division 9 – Gypsum Board	LS	1		
24	Division 9 – Flooring Repair	LS	1		
25	Division 9 – Painting and Coating	LS	1		
26	Division 14 - Scaffolding	LS	1		

TOTAL BID _____

FOR INFORMATION ONLY – NOT TO BE SUBMITTED WITH BID

FAITHFUL PERFORMANCE BOND
(Construction)

KNOW ALL PERSONS BY THESE PRESENTS, that the City of Napa (hereinafter designated as "City"), a municipal corporation located in the County of Napa, State of California, has awarded a contract to and has entered into an agreement with _____, hereinafter designated as "Principal," whereby Principal agrees to complete the improvements more particularly described in all documents forming the complete contract entitled "_____," which said agreement is hereby referred to and made a part hereof; and

WHEREAS, said Principal is required under the terms of said agreement to furnish a bond for the faithful performance of said agreement.

NOW, THEREFORE, we, the Principal and _____, as surety, are held and firmly bound unto the City in the penal sum of _____ dollars ($_____) lawful money of the United States, being not less than one hundred percent (100%) of the estimated contract cost of the work for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above-bounded Principal, his/her/its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, therein provided, on his/her/its 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 and save harmless City, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their seals this ____ day of _____, 20___, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

NOTE: To be signed by Principal, and Admitted Surety and acknowledgement and notarial seal for both attached. Attach copy of authority for surety agent and County Clerk certificate under CCP §995.660*)*
[SEAL]

_____

_____

_____
(Principal)

_____

_____
(Surety)

FOR INFORMATION ONLY – NOT TO BE SUBMITTED WITH BID

LABOR AND MATERIALS BOND
(Construction)

KNOW ALL PERSONS BY THESE PRESENTS, that the City of Napa (hereinafter designated as "City"), a municipal corporation located in the County of Napa, State of California, has awarded a contract to and has entered into an agreement with _____, hereinafter designated as "Principal," whereby Principal agrees to complete the improvements more particularly described in all documents forming the complete contract entitled "_____," which said agreement is hereby referred to and made a part hereof; and

WHEREAS, said Principal is required to furnish a bond in connection and with said contract; provided that if said Principal, or any of his/her/its contractors, shall fail to pay for any materials, provisions, provider or other supplies or teams used in, upon, for or about the performance of the work contracted to be done, or for any work or labor done thereon of any kind, the Surety of this bond will pay the same to the extent hereinafter set forth.

NOW, THEREFORE, we, the Principal and _____, as surety, are held and firmly bound unto the City in the penal sum of _____ dollars ($_____) lawful money of the United States, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if said Principal, his/her/its heirs, executors, administrators, successors or assigns, or its subcontractors, shall fail to pay any of the persons named in Section 3181 of the Civil Code, or to pay for any materials, provisions, provender, or other supplies or teams used in, upon, for or about the performance of the work contracted to be done, or for any work or labor thereon of any kind or for amounts due under the Unemployment Insurance Code with respect to such work or labor, then said Surety will pay the same in or to an amount not exceeding the amount hereinabove set forth, and also will pay in case suit is brought upon this bond a reasonable attorney's fee in such suit, which fee shall be fixed by the Court.

AS FURTHER TERMS OF THIS BOND, IT IS UNDERSTOOD AS FOLLOWS:

1. This bond and all its provisions shall insure to the benefit of any and all persons named in Section 3181 of the Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

2. This bond is given to comply with the provisions of Chapter 7, Part 4, Division 3, of the Civil Code. The liability of the Principal and Surety hereunder is governed by the provisions of said chapter, all acts amendatory thereof, and all other statutes referred to therein. The said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way effect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any way effect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

FOR INFORMATION ONLY – NOT TO BE SUBMITTED WITH BID

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their seals this ____ day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

NOTE: To be signed by Principal, and Admitted Surety and acknowledgement and notarial seal for both attached. Attach copy of authority for surety agent and County Clerk certificate under CCP §995.660*)*
[SEAL]

_____

_____

_____
(Principal)

_____

_____
(Surety)

FOR INFORMATION ONLY – NOT TO BE SUBMITTED WITH BID

WARRANTY/MAINTENANCE BOND

WHEREAS, the City Council of the CITY OF NAPA, State of California (hereinafter designated as "City"), and _____ (hereinafter designated as "Principal"), have entered into an agreement ("Agreement") dated _____, 20____, whereby Principal guaranteed that all improvements (as defined therein) constructed by or on behalf of Principal shall be free from defects of materials or work quality and shall perform satisfactorily for a period of at least one (1) year from the date of final acceptance of all work performed under the Agreement and further, the principal agreed to repair defects and replace improvements which cannot be repaired within said one (1) year period; and

WHEREAS, said Principal is required to furnish a bond for the faithful performance of its responsibility to maintain repair and replace said improvements.

NOW, THEREFORE, we the Principal and _____ as surety are held and firmly bound unto the City in the penal sum of _____ lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above-bounded Principal, his, her or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and provisions in the said agreement and any alteration thereof made as therein provided, on this or their part, to be kept and performed by Principal as required therein and in all respects according to their true intent and meaning, and shall indemnify and save harmless the City and its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in any wise affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications.

In witness hereof, this instrument has been duly executed by the Contractor and surety above named on _____, 20____.

NOTE: To be signed by Principal, and Admitted Surety and acknowledgement and notarial seal for both attached. Attach copy of authority for surety agent and County Clerk certificate under CCP §995.660*)*
[SEAL]

_____

_____

_____
(Principal)

_____

_____
(Surety)

FOR INFORMATION ONLY – NOT TO BE SUBMITTED WITH BID

EXAMPLE OF ACCEPTABLE INSURANCE DOCUMENTATION

ACORD. CERTIFICATE OF LIABILITY INSURANCE — DATE (MM/DD/YYYY)

PRODUCER: FOR CONSTRUCTION BID SPECIFICATIONS

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED: JOHN DOE CONTRACTOR

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: Shifting Sands Co.	
INSURER B: Helping Hands Co.	
INSURER C: ABC Excess	
INSURER D:	
INSURER E:	

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	X	GENERAL LIABILITY					
		[X] COMMERCIAL GENERAL LIABILITY	XXXXX	7/1/08	7/1/09	EACH OCCURRENCE	$2,000,000
		[ ] CLAIMS MADE [X] OCCUR				DAMAGE TO RENTED PREMISES (Ea occurrence)	$2,000,000
						MED EXP (Any one person)	$
						PERSONAL & ADV INJURY	$2,000,000
						GENERAL AGGREGATE	$4,000,000
		GEN'L AGGREGATE LIMIT APPLIES PER:				PRODUCTS - COMP/OP AGG	$2,000,000
		[ ] POLICY [ ] PRO-JECT [ ] LOC					
A		AUTOMOBILE LIABILITY					
		[X] ANY AUTO	XXXXX	7/1/08	7/1/09	COMBINED SINGLE LIMIT (Ea accident)	$2,000,000
		ALL OWNED AUTOS				BODILY INJURY (Per person)	$
		SCHEDULED AUTOS					
		HIRED AUTOS				BODILY INJURY (Per accident)	$
		NON-OWNED AUTOS					
						PROPERTY DAMAGE (Per accident)	$
		GARAGE LIABILITY				AUTO ONLY - EA ACCIDENT	$
		ANY AUTO				OTHER THAN AUTO ONLY: EA ACC	$
						AGG	$
C		EXCESS/UMBRELLA LIABILITY				EACH OCCURRENCE	$1,000,000
		[X] OCCUR [ ] CLAIMS MADE	XXXXX	7/1/08	7/1/09	AGGREGATE	$1,000,000
							$
		[ ] DEDUCTIBLE					$
		[ ] RETENTION $					$
B		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY				[X] WC STATUTORY LIMITS [ ] OTHER	
		ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?	XXXXX	7/1/08	7/1/09	E.L. EACH ACCIDENT	$
		If yes, describe under SPECIAL PROVISIONS below				E.L. DISEASE - EA EMPLOYEE	$
						E.L. DISEASE - POLICY LIMIT	$
		OTHER					

SAMPLE

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

All operations of the Named Insured, including project referenced below, if any.
General Liability - see additional insured endorsement attached - City, its officers, agents and employees are additional insureds including completed operations, and insurance is primary.
WC - see waiver of subrogation endorsement attached.

CERTIFICATE HOLDER

City of Napa
P.O. Box 660
Napa, CA 94559
Attn: City Clerk

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL _____ DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2001/08) — © ACORD CORPORATION 1988

INSURED:

POLICY NUMBER:

COMMERCIAL GENERAL LIABILITY

THIS ENDORSEMENT CHANGES THE POLICY – PLEASE READ IT CAREFULLY

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – (FORM B)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART.

SCHEDULE:

Name of Person or Organization: SAMPLE

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you.

FOR INFORMATION ONLY – NOT TO BE SUBMITTED WITH BID

Certificate pursuant to 995.640(a) Code of Civil Procedure

State of California)
)ss.
County of Napa)

I, JOHN TUTEUR, County Clerk of the County of Napa, State of California, in and for said County DO HEREBY CERTIFY THAT

…… has been issued a certificate of authority as an admitted surety by the Insurance Commissioner authorizing the insurer to transact surety insurance in the State of California, and that based on the records in this office, that authority has not been surrendered, revoked, canceled, annulled, or suspended.

In Testimony Whereof, I have hereunto set my hand and affixed the seal of said County this …… Day of ……, 20……

JOHN TUTEUR, COUNTY CLERK

By: ……..
Deputy Recorder-County Clerk

EXHIBIT 16-B SUBCONTRACTING REQUEST

CONTRACTOR NAME				PROJECT LOCATION
BUSINESS ADDRESS				CONTRACT NUMBER
CITY AND STATE			ZIP CODE	FEDERAL-AID PROJECT NUMBER

SUBCONTRACTOR (NAME, BUSINESS ADDRESS, PHONE)	BID ITEM NUMBER (S)	PERCENTAGE OF BID ITEM SUBCONTRACTOR	CHECK IF (SEE CATEGORY BELOW) 1	2	3	DESCRIBE WORK WHEN LESS THAN 100% OF WORK IS SUBCONTRACTED	DOLLAR AMOUNT BASED ON THE BID AMOUNT

Categories: **1. Specialty** **2. Listed Under Fair Practice Act** **3. Certified DBE**

I certify that:

- The provisions for labor set forth in the contract apply to the subcontracted work.
- If applicable, special provisions for federal requirements have been inserted into the subcontracts and should be incorporated in any lower-tier subcontract. Written contracts have been executed for the above noted subcontracted work.

CONTRACTOR'S SIGNATURE	DATE

This section is to be completed by the resident engineer.

1. Total of bid items $ _____
2. Specialty items previously approvied (if applicable, see note in the instructions) $ _____
3. Specialty items this request (if applicasble, see note in the instructions) $ _____
4. Total (lines 2 + 3) $ _____
5. Contractor must preform with own forces (lines 1 minus 4) x _____ % $ _____
6. Bid item previously subcontracted $ _____
7. Bid item subcontractor (this request) $ _____
8. Total (lines 6 + 7) $ _____
9. Balance of work contractor to preform (lines 1 minus 6) $ _____

APPROVED

RESIDENT ENGINEER'S SIGNATURE	DATE

DISTRIBUTION: Original – Contractor, Copy – Resident Engineer

INSTRUCTIONS

All first-tier subcontractors must be included on a subcontracting request.

Before subcontracting work starts, the contractor will submit an original subcontracting request (Exhibit 16-B) in accordance with contract specifications. After approval, the RE returns the original to the contractor and completes the remaining distribution as listed on the bottom of the form.

When an entire item is subcontracted, show the contractor's bid price.

When a portion of an item is subcontracted, describe the portion and show the percentage of the bid item and value.

This form is not be used for substitutions of subcontractors and DBEs.

SPECIAL PROVISIONS

Earthquake Damage Repair – Historic Goodman Library (DR15BLDG)

SECTION 1 PLANS AND SPECIFICATIONS

The work embraced herein must be done in accordance with the Standard Specifications of the State of California Department of Transportation, 2015 Edition, the Standard Plans of the State of California Department of Transportation, 2015 Edition; the City of Napa Standard Plans dated July 2008, including any supplemental updates thereto, and these Special Provisions. In case of conflict between the Standard Specifications and these Special Provisions, these Special Provisions will take precedence over and be used in lieu of such conflicting portions.

These Special Provisions are expressed in U.S. customary units except where a referenced document uses the International System of Units as the standard.

Amendments to the Standard Specifications set forth in these Special Provisions will be considered as ”Revised Standard Specifications” for the purposes set forth in Section 5-1.02, ”Contract Components,” of the Standard Specifications. Whenever either the term "Standard Specifications is amended" or the term "Standard Specifications are amended" is used in the Special Provisions, the indented text or table following the term will be considered the “Revised Standard Specifications.” In case of conflict between such amendments and the Standard Specifications, the amendments will take precedence over and be used in lieu of the conflicting portions.

When in the Standard Specifications, or in any documents or instruments where the Standard Specifications govern, the following terms or nouns are used, the intent and meaning are interpreted as follows:

A. City Standard Plans – The City of Napa Standard Specifications and Standard Plans dated July 2008.

B. Days – As used in these Special Provisions, days mean working days.

C. Department or Department of Transportation – Department of Public Works of the City of Napa, California.

D. Director –Public Works Director of the City of Napa, State of California, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

E. Engineer - Public Works Director of the City of Napa, California, acting either directly or through properly authorized agents, such agents acting within the scope of the particular duties entrusted to them.

F. Laboratory: The established laboratory of the City of Napa’s current testing consultant, authorized by the Engineer to test materials and work involved in the contract.

G. Liquidated Damages – The amount prescribed in the Special Provisions, pursuant to the authority of Government Code Section 53069.85, to be paid to the City of Napa to be deducted from any payments due or to become due to you for each calendar day’s delay in completing the whole or any specified portion of the work beyond the time allowed in the Special Provisions.

H. State Contract Act – all applicable provisions of the Public Contract Code (excluding Chapter 1, Division 2, Part 2, therein), Government Code, Labor Code, Civil Code, Business and Professions Code, as they apply to contracts with local public agencies, as defined in said codes.

I. Standard Plans – The 2015 edition of the Standard Plans of the State of California, Department of Transportation. Any reference therein to the State of California or a State agency, Office, or officer will be interpreted to refer to the City or its corresponding agency, office, or officer acting under this contract.

J. Standard Specifications - The 2015 edition of the Standard Specifications of the State of California, Department of Transportation. Any reference therein to the State of California or a State agency, Office, or officer will be interpreted to refer to the City or its corresponding agency, office, or officer acting under this contract.

K. State, Owner, or Department - The City of Napa, California, a legal entity organized and existing in the County of Napa, State of California.

L. Transportation Building-Sacramento: City Hall, City of Napa, State of California.

SECTION 2 PROPOSAL REQUIREMENTS AND CONDITIONS

2-1.01 GENERAL

Attention is directed to Section 2, "Bidding," of the Standard Specifications and these Special Provisions for the requirements and conditions related to bid eligibility and the bidding process. In addition to the subcontractors required to be listed in conformance with Section 2-1.10, "Subcontractor List," of the Standard Specifications, each proposal must have listed therein the portion of work that will be done by each subcontractor listed. A sheet for listing the subcontractors is included in the Bid Forms.

The Bidder's Bond form mentioned in the last paragraph in Section 2-1.34, "Bidder's Security," of the Standard Specifications is included in the Bid Forms.

In conformance with Public Contract Code Section 7106, a Noncollusion Affidavit is included in the Bid Forms. Signing the Proposal will also constitute signature of the Noncollusion Affidavit.

The contractor, sub recipient, or subcontractor must not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor must carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate. Each subcontract signed by you must include this assurance.

Failure by you to fulfill the requirements of the Special Provisions for submittals required to be furnished after bid opening, including but not limited to DBE submittals or escrowed bid documents, where applicable, may subject you to a determination of the bidder's responsibility in the event of being the apparent low bidder on future Public Works contracts.

2-1.02 REQUIRED LISTING OF PROPOSED SUBCONTRACTORS

Each bid must have listed therein the name, address, work to be performed (bid item number and description), numerical percentage of the total bid, and the contractor's license number of each subcontractor to whom you propose to subcontract portions of the work in an amount in excess of one-half of one percent of the total bid or $10,000, whichever is greater, in accordance with the Subletting and Subcontracting Fair Practices Act, commencing with Section 4100 of the Public Contract Code.

Your attention is directed to other provisions of said Act related to the imposition of penalties for a failure to observe its provisions by using unauthorized subcontractors or by making unauthorized substitutions. A sheet for listing the subcontractors, as required herein by Law, is included in the Bid Forms.

2-1.03 INTERPRETATION OF DRAWINGS AND DOCUMENTS

Should you find apparent discrepancies in the drawings or documents, or should you be in doubt as to their meaning, you should at once notify the Engineer, who will send written instructions to all bidders. The City of Napa will not be responsible for oral instructions or information obtained from an officer, agent, employee, or any other person and the same will not relieve you from fulfilling any of the conditions or covenants of the contract.

Any addendums or notices issued prior to bid opening will be sent to all holders of drawings and documents and will become a part of said drawings and documents and will be covered in the bid and will be made a part of the contract.

2-1.04 FEDERAL LOBBYING RESTRICTIONS

Section 1352, Title 31, United States Code prohibits Federal funds from being expended by the recipient or any lower tier sub recipient of a Federal-aid contract to pay for any person for influencing or attempting to influence a Federal agency or Congress in connection with the awarding of any Federal-aid contract, the making of any Federal grant or loan, or the entering into of any cooperative agreement.

If any funds other than Federal funds have been paid for the same purposes in connection with this Federal-aid contract, the recipient must submit an executed certification and, if required, submit a completed disclosure form as part of the bid documents.

A certification for Federal-aid contracts regarding payment of funds to lobby Congress or a Federal agency is included in the Proposal. Standard Form - LLL, "Disclosure of Lobbying Activities," with instructions for completion of the Standard Form is also included in the Proposal. Signing the Proposal will constitute signature of the Certification.

The above referenced certification and disclosure of lobbying activities must be included in each subcontract and any lower-tier contracts exceeding $100,000. All disclosure forms, but not certifications, must be forwarded from tier to tier until received by the Engineer.

You, the subcontractors, and any lower-tier contractors must file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by you, the subcontractors, and any lower-tier contractors. An event that materially affects the accuracy of the information reported includes:

(1) A cumulative increase if $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

(2) A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

(3) A change in the officer(s), employees(s), or Member(s) contacted to influence or attempt to influence a covered Federal Action.

2-1.05 DISADVANTAGED BUSINESS ENTERPRISE (DBE)

A. General 01-23-15

Attention is directed to Section 2-1.12, "Disadvantaged Business Enterprises" of the Standard Specifications and these Special Provisions.

This project is subject to Title 49 CFR 26.13(b):

> The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable

requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:

(1) Withholding monthly progress payments;

(2) Assessing sanctions;

(3) Liquidated damages; and/or

(4) Disqualifying the contractor from future bidding as non-responsible.

Include this assurance in each subcontract you sign with a subcontractor.

B. DBE Goal

1. General

The Department shows a goal for DBEs to comply with the DBE program objectives provided in 49 CFR 26.1.

Make work available to DBEs and select work parts consistent with the available DBEs, including subcontractors, suppliers, service providers, and truckers.

Meet the DBE goal shown on the *Notice to Bidders* or demonstrate that you made adequate good faith efforts to meet this goal.

You are responsible to verify at bid opening the DBE firm is certified as a DBE by the California Unified Certification Program and possess the work codes applicable to the type of work the firm will perform on the Contract.

Determine that selected DBEs perform a commercially useful function for the type of work the DBE will perform on the Contract as provided in 49 CFR 26.55(c)(1)–(4). Under 49 CFR 26.55(c)(1)–(4), the DBE must be responsible for the execution of a distinct element of work and must carry out its responsibility by actually performing, managing, and supervising the work.

All DBE participation will count toward the Department's federally mandated statewide overall DBE goal.

Credit for materials or supplies you purchase from DBEs will be evaluated on a contract-by-contract basis and counts toward the goal in the following manner:

1. 100 percent if the materials or supplies are obtained from a DBE manufacturer.
2. 60 percent if the materials or supplies are obtained from a DBE regular dealer.
3. Only fees, commissions, and charges for assistance in the procurement and delivery of materials or supplies if they are obtained from a DBE that is neither a manufacturer nor a regular dealer. 49 CFR 26.55 defines *manufacturer* and *regular dealer*.

You receive credit toward the goal if you employ a DBE trucking company that is performing a commercially useful function. The Department uses the following factors in determining whether a DBE trucking company is performing a commercially useful function:

- The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.
- The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

- The DBE receives credit for the total value of the transportation services it provides on the Contract using trucks it owns, insures, and operates using drivers it employs.
- The DBE may lease trucks from another DBE firm, including an owner-operator who is certified as a DBE. The DBE who leases trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the Contract.
- The DBE may lease trucks without drivers from a non-DBE truck leasing company. If the DBE leases trucks from a non-DBE truck leasing company and uses its own employees as drivers, it is entitled to credit for the total value of these hauling services.
- A lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

[49 Fed Reg 59595 (10/2/14)(to be codified at 49 CFR 26.55(d)]

2. DBE Commitment Submittal 04-15-15

Submit a copy of the quote from each DBE shown on the DBE Commitment form that describes the type and dollar amount of work shown on the form. Submit a DBE Confirmation form for each DBE shown on the DBE Commitment form to establish that it will be participating in the Contract in the type and dollar amount of work shown on the form. If a DBE is participating as a joint venture partner, submit a copy of the joint venture agreement. The DBE Commitment and Confirmation forms are located within the bid documents

If you do not submit the DBE Commitment and Confirmation form with the bid, it must be received by the Department no later than 4:00 p.m. on the 4th business day after bid opening, otherwise the Department finds your bid nonresponsive.

3. DBE Good Faith Efforts Submittal 01-23-15

You can meet the DBE requirements by either documenting commitments to DBEs to meet the Contract goal or by documenting adequate good faith efforts to meet the Contract goal. An adequate good faith effort means that the bidder must show that it took all necessary and reasonable steps to achieve a DBE goal that, by their scope, intensity, and appropriateness to the objective, could reasonably be expected to meet the DBE goal.

If you have not met the DBE goal, complete and submit the DBE Good Faith Efforts Documentation form within the bid documents showing that you made adequate good faith efforts to meet the goal. Only good faith efforts directed toward obtaining participation by DBEs are considered.

If good faith efforts documentation is not submitted with the bid, it must be received by the Department no later than 4:00 p.m. on the 4th business day after bid opening to protect your eligibility for award of the contract in the event the Department finds that the DBE goal has not been met.

Refer to 49 CFR 26 Appendix A for guidance regarding evaluation of good faith efforts to meet the DBE goal.

The Department considers DBE commitments of other bidders in determining whether the low bidder made good faith efforts to meet the DBE goal.

2-1.06 BID DOCUMENT SUBMITTAL

Submit the bid forms according to the schedule shown in the following table:

Bid Form Submittal Schedule for a Federal-Aid Contract with a DBE Goal

Form	Submittal deadline
Bid to the Public Works Department	Time of bid
Subcontractor List	Time of bid
DBE Commitment	No later than 4 p.m. on the 4th business day after bid opening
DBE Confirmation	No later than 4 p.m. on the 4th business day after bid opening
DBE Good Faith Efforts Documentation	No later than 4 p.m. on the 4th business day after bid opening

SECTION 3 CONTRACT AWARD AND EXECUTION

3-1.01 GENERAL

Attention is directed to Section 3, ”Contract Award and Execution,” of the Standard Specifications and these Special Provisions for the requirements and conditions related to the award and execution of contract.

The ”Contract Award Period” table located in Section 3-1.04, “Contract Award,” of the Standard Specifications is amended to read:

Contract Award Period

Days after Bid Opening	Project estimated cost
60	< $200 million

The award of the contract, if it be awarded, will be to the lowest and best bidder whose proposal complies with all the requirements prescribed.

The contract must be executed by you and must be returned, together with the contract bonds, to the Department so that it is received within ten (10) calendar days, not including Saturdays, Sundays and legal holidays, after you have received the contract for execution. Failure to do so will be just cause for forfeiture of the proposal guaranty. The executed contract documents must be delivered to the following address:

City of Napa Public Works Department
Community Services Building
Attn: Ernie Cabral, Associate Civil Engineer
1600 First Street
Napa, California 94559-0660

Attention is directed to the section titled, “Disadvantaged Business Enterprise (DBE),” of these Special Provisions for the submission of DBE forms.

3-1.02 BONDS

Delete Section 3-1.05, "Contract Bonds (Pub Cont Code §§ 10221 and 10222)," of the Standard Specifications in its entirety and replace with the following:

The successful bidder must furnish the following two (2) bonds:

1 A Faithful Performance bond in an amount equal to one hundred percent (100%) of the contract price.

2 A Labor and Materials bond to guarantee payment of all claims furnished, in an amount equal to one hundred percent (100%) of the contract price.

Contract bonds must be on the City of Napa forms, copies of which are included in the Bid Forms or on a substantially similar form as approved by the City Attorney.

In conjunction with the submittal of bonds, the successful bidder must furnish the following information: (a) the original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws, or other instrument entitling or authorizing the person who executed the bonds to do so; (b) a certified copy of the certificate of authority of the insurer issued by the Insurance Commissioner of the State of California; and (c) a certificate pursuant to CCP 995.640(a) from the clerk of Napa County that the certificate of authority of the insurer has not been surrendered, revoked, canceled, annulled, or suspended, or, in the event that it has, that renewed authority has been granted.

3-1.03 FAILURE TO EXECUTE CONTRACT AND FORFEITURE OF BID SECURITY

Delete Section 3-1.18, "Contract Execution," of the Standard Specification in its entirety and replace with the following:

In the event that the lowest responsible bidder does not properly and timely execute and submit the contract, required bonds, required insurance policies, and forms within ten (10) calendar days from the date of receipt of the City's award letter, not including Saturdays, Sundays, and legal holidays, the Bid Security must be forfeited to the City and the City may award the contract to the next lowest responsible bidder. The forfeited Bid Security may be utilized by the City in accordance with the California Public Contract Code sections 20170 through 20174.

3-1.04 RETURN OF PROPOSAL GUARANTIES

Section 3-1.19, "Bidder's Securities," of the Standard Specifications is amended to read:

Proposal Guaranties of all bidders will be retained until the contract has been finally executed, after which those proposal guaranties, except bidders' bonds and any guaranties which have been forfeited, will be returned to the respective bidders whose proposals they accompany.

SECTION 4 START OF JOB SITE ACTIVITIES, TIME, AND LIQUIDATED DAMAGES

4-1.01 START OF ACTIVITIES AND TIME

Attention is directed to Sections 8-1.04, "Start of Job Site Activities", 8-1.05, "Time", and 8-1.10, "Liquidated Damages", of the Standard Specifications and these Special Provisions.

You must diligently prosecute the work to completion before the expiration of **one hundred eighty five (185)** working days. The contract time will begin five (5) working days after the date of the Notice to Proceed. Attention is directed to the section titled, "Schedule", of these Special Provisions.

The Notice to Proceed will not be issued until the contract is properly executed, good and approved bonds are furnished, and all insurance requirements have been met and the certificates have been approved by the City. No work under this contract may commence until the City issues the Notice to Proceed. An Erosion and Sediment Control Plan (project disturbs less than 1 acre) and a Traffic Control Plan must be approved prior to the start of work. Attention is directed to the section titled, “Submittals,” of these Special Provisions.

Notify the City in writing, forty-eight (48) Hours prior to beginning work.

The City of Napa calendar of holidays located in Appendix A must be used to calculate working days.

4-1.02 LIQUIDATED DAMAGES

Attention is directed to Section 8-1.10, “Liquidated Damages,” of the Standard Specifications and these Special Provisions. You must pay to the City of Napa the sum of **One Thousand Dollars ($1000)** per day, for each and every calendar day’s delay in finishing the work in excess of the number of working days prescribed above.

SECTION 5 GENERAL

5-1 SCOPE OF WORK

5-1.01 GENERAL

Attention is directed to Section 4, “Scope of Work,” of the Standard Specifications and these Special Provisions for the requirements and conditions related to the scope of work.

5-1.02 EXAMINATION OF PLANS, SPECIFICATIONS, CONTRACT, AND SITE OF WORK

Attention is directed to the section titled, "Differing Site Conditions," of these Special Provisions regarding physical conditions at the site. Attention is directed to Appendix E “Reports” which contains project reference documents.

5-1.03 DIFFERING SITE CONDITIONS

Attention is directed to Section 4-1.06, "Differing Site Conditions (23 CFR 635.109)," of the Standard Specifications and these Special Provisions.

During the progress of the work, if subsurface or latent conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those which may be ordinarily expected to be encountered at the site, the party discovering those conditions must promptly notify the other party in writing of the specific differing conditions before they are disturbed and before the affected work is performed.

You will be allowed five (5) days from the notification of the Engineer's determination of whether or not an adjustment of the contract is warranted, in which to file a notice of potential claim in conformance with the provisions of Section 5-1.42, “Requests for Information” and Section 5-1.43, “Potential Claims and Dispute Resolution," of the Standard Specifications and as specified herein; otherwise the decision of the Engineer will be deemed to have been accepted by you as correct. The notice of potential claim will set forth in what respects your position differs from the Engineer's determination and provide any additional information obtained by you. The notice of potential claim must be accompanied by your certification that the following were made in preparation of the bid: a review of the contract and reports provided as part of the Special Provisions, and an examination of the conditions above ground at the site.

5-1.04 REMOVAL OF ASBESTOS AND HAZARDOUS SUBSTANCES

When the presence of asbestos or hazardous substances are not shown on the plans or indicated in the specifications and you encounter materials which you reasonably believe to be asbestos or a hazardous substance as defined in Section 25914.1 and 25914.2 of the Health and Safety Code, and the asbestos or hazardous substance has not been rendered harmless, you may continue work in unaffected areas reasonably believed to be safe. You must immediately cease work in the affected area and report the condition to the Engineer in writing.

In conformance with Section 25914.1 and 25914.2 of the Health and Safety Code, removal of asbestos or hazardous substances including exploratory work to identify and determine the extent of the asbestos or hazardous substance will be performed by separate contract, unless disclosed in the bid or contract documents.

If delay of work in the area delays the current controlling operation, you must submit an RFI to request a delay-related time or payment adjustment. Attention is directed to Section 8-1.07, ”Delays,” of the Standard Specifications.

5-2 CONTROL OF WORK

5-2.01 GENERAL

Attention is directed to Section 5, “Control of Work,” of the Standard Specifications and these Special Provisions for the requirements and conditions regarding the contract parties’ and contract acceptance

Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the Standard Specifications, Standard Plans, these Special Provisions, or the project plans, you must apply to the Engineer for such further explanations as may be necessary and must conform to them as part of the contract. In the event of any doubt or question arising respecting the true meaning of the Standard Specifications, Standard Plans, these Special Provisions, or the project plans, reference must be made to the Engineer, whose decision thereon will be final.

5-2.02 SANITATION FACILITIES

You must conform to the requirements of Section 13.16.070 of the Napa Municipal Code, requiring the maintenance of not less than one chemical toilet, approved by the Health Officer, on the premises, for each twenty (20) employees or fractional part thereof working at a construction job site, unless specifically exempt from this requirement by the Engineer. Alternate sanitary facilities if suitably located and adequately available may be substituted for the facilities required by Section 13.16.070, subject to approval of the Engineer. The job site location(s) of the chemical toilet must be approved by the Engineer.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-2.03 CLEANLINESS OF STREET

Attention is directed to Section 12.16.100 of the Napa Municipal Code which reads:

> Section 12.16.100: Vehicles Spilling Loads: It is unlawful for any person to use any vehicle for the conveyance or removal of dirt, gravel, rock or other material without having the same so constructed and loaded as to prevent contents thereof from being scattered or deposited upon the streets over which said vehicles may be driven.”

You must keep the streets affected by this project mechanically swept at a frequency to be solely determined by the Engineer.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-2.04 JOB SITE APPEARANCE

Attention is directed to Section 5-1.31, "Job Site Appearance," of the Standard Specifications and these Special Provisions.

You must maintain a neat appearance to the work.

In areas visible to the public, the following must apply:

A. Construction and/or demolition debris must be hauled off-site at the end of each workday.

B. Forms that are to be re-used must be stacked neatly concurrently with their removal. Forms that are not to be re-used must be disposed of concurrently with their removal.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-2.05 AREAS FOR USE

Attention is directed to -Section 5-1.32, "Areas for Use," of the Standard Specifications and these Special Provisions.

You may store and stage materials within the previously fenced off area around the building. As shown in Appendix F, 4 parking spaces at the rear of the building will be provided for your use (staging of materials, debris bins etc.), otherwise you must make your own arrangements for staging area(s). Other overnight storage and staging of materials within the street right-of-way will not be allowed, unless otherwise approved by the Engineer. Any staging areas used by you must be subject to the section titled, "Water Pollution Control", of these Special Provisions. Use of your staging areas will be at your own risk and the City will not be held liable for any damage or loss of materials of equipment located within such areas.

Other than as described in the paragraph above, the highway right of way must be used only for purposes that are necessary to perform the required work. You must not occupy the right of way, or allow others to occupy the right of way, for purposes which are not necessary to perform the required work.

Attention is directed to the section titled, "Maintaining Traffic" of these Special Provisions regarding access to nearby businesses. You must fence each of the staging areas and areas approved for construction use with 6' high temporary chain link fencing completely covered with opaque black mesh screening. You must maintain the fencing continuously. Use of your work areas and other areas will be at your own risk, and the City will not be held liable for any damage to or loss of materials or equipment located within such areas.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard

Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-2.06 WORK SAFETY

You must assume sole and complete responsibility for job site conditions for the duration of the project including, but not limited to, the safety and health conditions on the work site. This requirement must apply continuously and will not be limited to normal working hours. You must comply with all applicable provisions of law including the standards, rules, regulations and orders established by the California Division of Industrial Safety. You must furnish and use safety devices and safeguards and must adopt and use practices, means, methods, operations, and processes which are reasonably adequate to render the work site safe and healthful. You must take all steps necessary to ensure that any hazardous condition is corrected promptly either by you or by assigning such responsibility to the appropriate subcontractor and ensuring that the corrections are completed. The City, design Engineer, construction manager and the officers, agents or employees, will not have charge of or responsibility for construction or safety means, methods, techniques, procedures, as these are solely the responsibility of you.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-2.07 CONFINED SPACES

Attention is directed to Section 7-1.02K(6)(d), "Confined Space Safety," of the Standard Specifications and these Special Provisions.

For any work that is to take place in a confined space, you must comply with all CAL/OSHA regulations concerning entry into confined spaces. Confined space for the purpose of this Article pertains to the interior of storm drains, sewers, vaults, utility pipelines, manholes, reservoirs, and any other such structure which is similarly surrounded by confining surfaces so as to permit the accumulation of dangerous gases or vapors.

Tests for the presence of combustible or dangerous gases must be made with an approved device immediately prior to a worker entering a confined space and at intervals frequent enough to ensure a safe atmosphere during the time a worker is in such a structure. A record of such tests must be kept at the job site.

Sources of ignition, including smoking, will be prohibited in any confined space until after the atmosphere within the confined space has been tested and found safe.

No employee will be permitted to enter or remain within a confined space until such confined space is free of concentrations of harmful gases, and lack of oxygen, unless the employee is wearing suitable and approved respiratory equipment.

Confined spaces that contain or that have last been used as containers of toxic gases, light oils, hydrogen sulfide, corrosives, or poisonous substances, must, in every case, be tested by means of approved devices or chemical analysis before being entered without wearing approved respiratory equipment.

Reservoirs, vessels, or other confined spaces having openings or manholes in the side as well as in the top must be entered from the side openings or manholes when practicable.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Work include full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard

Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-2.08 RECORD DRAWINGS

Using colored ink, you must make changes on a set of clean prints of the contract drawings. Indicate all changes and revisions to the original design that affect the permanent structures/facilities.

Drawings must be kept current with all work instructions, change orders and construction adjustments. Drawings must be subject to the inspection of the Engineer at all times. Progress payments, or portions thereof, may be withheld if drawings are not accurate and current.

Project record drawings are the property of the City. Prior to acceptance of the work, you must deliver to the Engineer one (1) set of neatly marked record drawings, accurately showing all the information required above.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-2.09 NOISE AND VIBRATION

Noise and vibration must conform to Section 14-8, "Noise and Vibration," of the Standard Specifications and these Special Provisions.

The noise level from your operations, between the hours of 9:00 p.m. and 6:00 a.m., must not exceed 86 dB at a distance of fifty (50) feet. This requirement will not relieve you from your responsibility for complying with local ordinances regulating noise level.

The noise level requirement must apply to the equipment on the job or related to the job, including but not limited to trucks, transit mixers or transient equipment that may or may not be owned by you. The use of loud sound signals must be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-3 CONTROL OF MATERIALS

5-3.01 GENERAL

Attention is directed to Section 6, “Control of Materials,” of the Standard Specifications and these Special Provisions for the requirements and conditions related to control of materials.

5-3.02 DISPOSAL OF MATERIAL

Attention is directed to Section 5-1.20B(4), “Contractor-Property Owner Agreement,” of the Standard Specifications and these Special Provisions.

You must make arrangements for disposing of materials outside the street right-of- way, and pay all costs involved. Disposable material must not be stockpiled at the site beyond the normal working hours. Material must not be disposed of in any of the following areas:

1 Within the floodway of the City of Napa or the County of Napa.

2 Within the normal channel of any river, creek, stream, ditch, canal, swale or other water course and within the portions of the adjacent flood plain of same as are required to efficiently carry the flood flow, as determined by the Engineer.

Prior to any disposal of material, you must obtain written permission from the owner of the proposed disposal site. You must submit the property owner’s written permission to the Engineer and obtain the Engineer’s written approval before moving the material offsite.

Whenever any material disposal location is visible from a public street, the disposal area must be left in a neat and uniform manner to the satisfaction of the Engineer.

If the disposal site is within the City of Napa city limits, you must submit to the Engineer an approved grading permit and plan prior to disposing of the material. A grading permit and plan is required when 50 CY of material or more is disposed either temporarily or permanently at a site. Grading permits are issued at the City of Napa Building Department.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Materials includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-3.03 SUBMITTALS

GENERAL

You must submit samples, drawings, and data for the Engineer's approval which will demonstrate fully that the construction, and the materials and equipment to be furnished will comply with the provisions and intent of this specification.

Submit all samples, drawings and data, unless specified otherwise, in the quantity required for return to you, plus three, which the Engineer will retain. Label each sample, naming the project, the source of the material, and the proposed location of use on the project.

Restrict each submittal to only one Specification Section or portion thereof. Unless otherwise specifically permitted by the Engineer, make all submittals in groups containing all associated items for complete systems. The Engineer may reject partial submittals as not complying with the provisions of the contract documents.

Specific items to be covered by submittals must include, as a minimum, the following:

Submittals Listed in Division 01	Submittals Listed in Division 07
Submittals Listed in Division 02	Submittals Listed in Division 08
Submittals Listed in Division 03	Submittals Listed in Division 09
Submittals Listed in Division 04	Submittals Listed in Division 14
Submittals Listed in Division 05	Exhibit 16-B Subcontracting Request Form
Submittals Listed in Division 06	Erosion and Sediment Control Plan
	Traffic Control and Pedestrian Access Plan

Where the specifications indicate that you must follow manufacturer's instructions for installation of materials or equipment, those instructions must be submitted to the City prior to the start of work whether or not instructions are listed specifically as a submittal. When referenced, the manufacturers printed installation instructions will have the same effect as if printed in the contract documents.

Make all shop drawings accurately to a scale sufficiently large to show all pertinent features of the item and its method of connection to the work. Make all shop drawing prints in blue or black line on white background. Reproductions of City drawings are not acceptable.

You must not use red color marks on submittals. Duplicate all marks on all copies submitted and ensure marks are photocopy reproducible.

Include legible scale details, sizes, dimensions, performance characteristics, capacities, test data, anchoring details, installation instructions, storage and handling instructions, color charts, layout drawings, parts catalogs, rough-in diagrams, wiring diagrams, controls, weights, and other pertinent data. Provide, at a minimum, the detail provided in the Contract Documents.

Prior to submittal for Engineer's review, use all means necessary to fully coordinate all materials, including the following procedures:

1. Determine and verify all field dimensions and conditions, materials, catalog numbers, and similar data.
2. Coordinate as required with all trades and with all public agencies involved.
3. Secure all necessary approvals from public agencies and others and signify by stamp, or other means, that they have been secured.

You must make all submittals far enough in advance of scheduled dates of installation to provide all required time for reviews, for securing necessary approvals, for possible revision and resubmittal, and for placing orders and securing delivery.

In scheduling, allow at least seven (7) calendar days for the Engineer's review, plus the transit time to and from the City office.

At least one copy of each submittal will be returned to you marked "Approved", "Approved as Noted", "Revise and Resubmit", or "Rejected." Submittals marked "Approved as Noted" need not be resubmitted, but the notes must be followed. If a submittal is rejected, it will be marked to indicate what is unsatisfactory. Resubmit revised drawings or data as indicated, in number of copies specified above.

Approval of each submittal by the Engineer will be general only and must not be construed as:

1. Permitting any departure from the contract requirements.
2. Relieving you of the responsibility for any errors and omissions in details, dimensions, or of other nature that may exist.
3. Approving departures from additional details or instructions previously furnished by the Engineer.

4. Relieving you from verifying all field conditions and dimensions.

Any submittals which are returned to you for resubmittal due to incompleteness or noncompliance more than once will cause additional review time and expense for the City. You must reimburse the City for all costs associated with the third and subsequent review of any submittals. The City reserves the right to deduct resubmittal review costs from amounts due to you.

SUBSTITUTIONS

The contract is based on the materials, equipment, and methods described in the contract documents. Any proposed substitutions by you are subject to the Engineer's approval.

The Engineer will consider proposals for substitution of materials, equipment, and methods only when such proposals are accompanied by full and complete technical data, and all other information required by the Engineer to evaluate the proposed substitution.

Requests for substitutions must be accompanied by a cover letter stating the reason for the substitution and any cost difference between the specified and proposed material.

Any deviations from the plans and specifications must be clearly identified on the submittal.

CERTIFICATE OF COMPLIANCE

Unless otherwise noted above, or noted elsewhere in these Special Provisions, the following materials will be accepted with the submission of a Certificate of Compliance. Certificates of Compliance must be provided to the City prior to incorporation of the material into the work.

Std. Specification Section	Material
12-3.20	Temporary Railing (Type K)
21-02.02D	Fiber
20-5.03	Mulch
20-2.15	Plastic pipe irrigation line
55-1	Structural steel
57-2	Structural timber
57-2	Treated timber and lumber
57-2	Lumber and timber
64-1	Plastic pipe
90-1.02B(2)	Cement
90-1.02C(2)	Concrete coarse aggregate (Cleanness value)
90-1.02C(3)	Concrete fine aggregate (Sand Equivalent)
90-1.02E	PCC admixtures
90-2	Minor concrete
95-1.02	Epoxy

FORM OF SUBMITTAL

Before submitting materials, You must provide the Engineer a template or example submittal form for the Engineers approval or you may use the sample form located in Appendix B. The included sample form can be provided to you in Microsoft Word format if requested.

You must completely identify each submittal and re-submittal by using one of the aforementioned forms and number submittals consecutively beginning with 1. Re-submittals must retain the original number with an added suffix starting with "A". Said form must include the name of the Project Engineer and the Project Name. It must also clearly indicate the Item Description, Manufacturer, Specification Section Reference and Drawing Sheet Number(s) Reference. All submittals must be certified by you for completeness and for compliance with the contract documents with the following Certification:

> I hereby certify that all material submitted has been checked for completeness, for correctness, and for compliance with the drawings and specifications, that field dimensions and conditions have been verified, and that exceptions, if any are clearly noted.

Allow a 3" x 4" space on the form for the City's Submittal Stamp.

Transmit all submittals to:

City of Napa
P.O. Box 660
1600 First Street
Napa, CA 94559-0660
Attn.: Mike Berger, Senior Civil Engineer.

5-3.04 BUY AMERICA

Attention is directed to Section 6-1.04, "Buy America," of the Standard Specifications and the requirements set forth by the Surface Transportation Assistance Act of 1982 (Section 165) and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) Sections 1041(a) and 1048(a).

A Certificate of Compliance, conforming to the provisions in Section 6-2.03C, "Certificates of Compliance," of the Standard Specifications, and the section titled, "Submittals," of these Special Provisions, must be furnished for steel and iron materials and production. If foreign steel and iron is used, you must furnish the Engineer acceptable documentation of the quality and value of the materials prior to incorporating them into the work.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Materials includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-3.05 USE OF UNITED STATES – FLAG VESSELS

You must agree to the following -

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carries, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United State-flag commercial vessels.

2. To Furnish within 20 days following the date of loading for shipments originating within the United State or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated “on-board” commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590.

3. To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract.

5-4 LEGAL RELATIONS AND RESPONSIBILITIES

5-4.01 INSURANCE

Section 7-1.06, “Insurance,” of the Standard Specifications is deleted in its entirety and replaced with the following:

Without limiting Contractor's indemnification provided herein, you must take out and maintain at all times during the life of this contract the following policies of insurance with insurers with a current A.M. Best's rating of no less than A: VII, or its equivalent, against injury to persons or damage to property which may arise from or in connection with the performance of work hereunder by Contractor, its agents, employees or subcontractors:

A. Workers' Compensation with statutory limits as required by the California Labor Code. Said policy shall contain, or be endorsed with, the following provisions:

   1. The policy shall not be canceled without thirty (30) days prior written notice to City (10 days for non-payment of premium).

   2. The policy shall provide for a waiver of subrogation against City, its officers, employees and agents.

B. Commercial General Liability Insurance at least as broad as Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001) in an amount no less than $3,000,000 per project, or $3,000,000 per occurrence/$5,000,000 aggregate. If work involves explosives, underground or collapse risks, XCU must be included. The amount of any deductible or self-insured retention over $100,000 shall be declared to and security posted guaranteeing payment of losses and defense costs. Said policy shall contain, or be endorsed with, the following provisions:

   1. The City, its officers, employees and agents, are covered as insureds for liability arising out of the operations performed by or on behalf of Contractor, including materials, parts or equipment furnished in connection with such work or operations, with coverage to include products and completed operations of Contractor and premises owned, occupied or used by Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officers, agents and employees.

   2. The policy shall not be canceled or materially reduced in coverage without thirty (30) days prior written notice to City (ten (10) days for non-payment of premium).

   3. For claims related to this project, the Contractor's insurance is primary coverage to the City, and any insurance or self-insurance programs maintained by the City is excess to Contractor's insurance and will not be called upon to contribute with it.

   4. Any failure to comply with reporting or other provisions of the parties, including breach of warranties, shall not affect coverage provided to City, its officers, employees and agents.

C. Automobile Liability, with coverage at least as broad as Insurance Services Office form number CA 00 01 06 92, Code 1 (any auto), in an amount of $ $3,000,000 per accident. The amount of any deductible or self-insured retention over $100,000 shall be declared to and approved by the City. Said policy shall contain, or be endorsed with the provision that coverage shall not be canceled or reduced in coverage without 30 days prior written notice to City (10 days for non-payment of premium).

D. Builders Risk/Course of Construction (as applicable for new building construction or additions to existing City buildings) written on an "all-risk" form, for 100% of the completed value on the insurable part of the project. The Builder's Risk policy shall provide for losses to be payable to City and the Contractor as their interests may appear and that in the event of payment for any loss under the coverage provided, the insurer shall have no rights of recovery against City and Contractor.

E. Prior to City's execution of Agreement, Contractor shall provide properly executed Certificates of Insurance and Endorsements, signed by a person authorized by the insurer to bind coverage on its behalf, evidencing the insurance required herein in a form approved by the City. The amount of any policy deductible or self-insured retention over $100,000.00 shall be included. Upon City's written request, Contractor shall provide City with complete certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications.

F. Contractor shall include all subcontractors as insureds under its policies or require subcontractors to secure and maintain insurance in accordance with all the requirements stated herein.

5-4.02 INDEMNIFICATION

Section 7-1.05, "Indemnification," of the Standard Specifications is deleted in its entirety and replaced with the following:

City and each of its officers, employees, consultants and agents including, but not limited to, the Public Works Director and each City's representative, 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, emotional injury, or death of any person; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, attributable to performance or character of the Work, and Contractor releases all of the foregoing persons and entities from any and all such claims.

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, City and each of its officers, employees, consultants and agents including, but not limited to, the Public Works Director and each City's representative (excluding agents who are design professionals), from claims, suits, actions, losses and liability of every kind, nature and description, including but not limited to claims and fines of regulatory agencies, or relating to claims, etc., for copyright and/or infringement of patent, and attorney's fees and consultant's fees, directly or indirectly, from any cause whatsoever, 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 in 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, regardless of whether it is caused in part by the negligence of City or by any person or entity required to be indemnified hereunder.

With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity against City and each of its officers, employees, consultants, and agents including, but not limited to City, the Public Works Director and each City's representative.

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.

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(ies) 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.

The Contractor's obligation to defend and indemnify shall not be excused because of the Contractor's inability to evaluate liability or because the Contractor evaluates liability and determines that the Contractor is not liable to the claimant. The Contractor will respond within thirty (30) days to the tender of any claim for defense and indemnity by the City, unless this time has been extended by the City. If the Contractor fails to accept or reject a tender of defense and indemnity within thirty (30) days, in addition to any other remedy authorized by law, so much of the money due the Contractor under and by virtue of the contract as shall reasonably be considered necessary by the City, may be retained by the City until disposition has been made of the claim or suit for damages or until the Contractor accepts or rejects the tender of defense, whichever occurs first.

The indemnities in the Contract Documents shall not apply to any indemnified party to the extent of its sole negligence or willful misconduct; nor shall they apply to City or other indemnified party to the extent of its active negligence.

5-4.03 NONDISCRIMINATION

Attention is directed to Section 7-1.02I(2), "Nondiscrimination," of the Standard Specifications.

5-4.04 WAGES

Attention is directed to Section 7-1.02K(2), "Wages," of the Standard Specifications and these Special Provisions.

The general prevailing wage rates determined by the Director of Industrial Relations are available from the California Department of Industrial Relations' Internet Web Site at: http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm. Changes, if any, to the general prevailing wage rates will be available at the same location.

Attention is directed to the Federal minimum wage rate requirements located in Appendix C. If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the general prevailing wage rates determined by the Director of the California Department of Industrial Relations for similar classifications of labor, you and your subcontractors must pay not less than the higher wage rate. The Department will not accept lower State wage rates not specifically included in the Federal minimum wage determinations. This includes "helper" (or other classifications based on hours of experience) or any other classification not appearing in the Federal wage determinations. Where Federal wage determinations do not contain the State wage rate determination otherwise available for use by you and your subcontractors, you and your subcontractors must pay not less than the Federal minimum wage rate which most closely approximates the duties of the employees in question.

5-4.05 PUBLIC SAFETY

You must provide for the safety of traffic and the public in conformance with Section 7-1.04, "Public Safety," of the Standard Specifications and these Special Provisions. Attention is also directed to the section titled, "Temporary Traffic Control," of these Special Provisions for provisions concerning flagging and traffic handling equipment and devices used in carrying out the provisions of this Public Safety Section.

Suspended loads or equipment must not be moved nor positioned over public traffic or pedestrians.

MEASUREMENT AND PAYMENT – The contract lump sum price for Traffic Control includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, including furnishing and installing Type K temporary railing and temporary crash cushion modules, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-4.06 PROPERTY AND FACILITY PRESERVATION

Attention is directed to Section 5-1.36, "Property and Facility Preservation," of the Standard Specifications and these Special Provisions.

PLANTS

Existing trees, plants, shrubs, lawns, other landscaping, irrigation equipment, and other private property that are not to be removed as shown on the plans or specified in these Special Provisions, and are injured or damaged by reason of your operations, must be replaced by you at your expense. All replacement work must be completed prior to the acceptance of work.

5-4.07 PERMITS AND LICENSES

GENERAL

Attention is directed to Section 5-1.20B "Permits, Licenses, Agreements, and Certifications," of the Standard Specifications and these Special Provisions.

You must provide any and all licenses and permits required by the Work. You must abide by any and all Federal, State, County and City Laws and Rules affecting the work and must maintain all required protection for property, employees and the public and insurance in connection with same, for all of which you must bear necessary expense.

The plans for the project have been reviewed and approved by the City of Napa Building Division. Prior to commencement of the work, you shall obtain a building permit for the project from the Building Division and arrange for the required inspections that are listed on the permit.

You shall provide the Building Division a minimum of twenty-four (24) hours prior notice for inspections.

As part of the building permit process, you shall obtain from the Building Division a "Golden Rod/Project Completion & Sign-Off Form" and obtain approval signatures from all listed agencies prior to issuance of the final Certificate of Completion.

Building Permit fees will be paid by the Engineer.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-4.08 SUBCONTRACTING

Attention is directed to Section 2-1.10, “Subcontractor List” and Section 5-1.13, "Subcontracting," of the Standard Specifications and these Special Provisions.

Pursuant to the provisions in Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations web site at http://www.dir.ca.gov/dir/Labor_law/DLSE/Debar.html.

Each subcontract and any lower tier subcontract that may in turn be made must conform to Section 14 of these Special Provisions. Noncompliance must be corrected. Payment for subcontracted work involved will be withheld from progress payments due, or to become due, until correction is made. Failure to comply may result in termination of the contract.

Upon the award of the contract, you must submit the Exhibit 16-B *Subcontracting Request* form to the Engineer for approval. You may submit the form for approval any time before subcontracted work commences.

5-4.09 DISADVANTAGED BUSINESS ENTERPRISES

General 01-23-15

Use each DBE as listed on the DBE Commitment form unless you receive authorization for a substitution. Ensure that all subcontracts and agreements with DBEs to supply labor or materials are performed under 49 CFR 26.

Maintain records, including:

1. Name and business address of each 1st-tier subcontractor
2. Name and business address of each DBE subcontractor, DBE vendor, and DBE trucking company, regardless of tier
3. Date of payment and total amount paid to each business

If you are a DBE contractor, include the date of work performed by your own forces and the corresponding value of the work.

Before the 15th day of each month for the previous month's work, submit:

1. Monthly DBE Trucking Verification form
2. Monthly DBE Payment form

If a DBE is decertified before completing its work, the DBE must notify you in writing of the decertification date. If a business becomes a certified DBE before completing its work, the business must notify you in writing of the certification date. Submit the notifications. Upon work completion, complete a Disadvantaged Business Enterprises (DBE) Certification Status Change form. Submit the form within 30 days of Contract acceptance.

Upon work completion, complete a Final Report – Utilization of Disadvantaged Business Enterprises (DBE), First-Tier Subcontractors form. Submit it within 30 days of Contract acceptance. The Department withholds $10,000 until the form is submitted. The Department releases the withhold upon submission of the completed form.

5-4.10 PERFORMANCE OF DISADVANTAGED BUSINESS ENTERPRISES

DBEs must perform work or supply materials as listed on the DBE Commitment form.

Do not terminate or substitute a listed DBE for convenience and perform the work with your own forces or those of an affiliate, a non-DBE firm, or another DBE firm or obtain materials from other sources without authorization from the Department.

The Department authorizes a request to use other forces or sources of materials if it shows any of the following justifications:

1. Listed DBE fails or refuses to execute a written contract based on the plans and specifications for the project.
2. You stipulated that a bond is a condition of executing the subcontract and the listed DBE fails to meet your bond requirements.
3. Work requires a contractor license and the listed DBE does not have a valid license under the Contractors License Law.
4. Listed DBE fails or refuses to perform the work or furnish the listed materials.
5. Listed DBE's work is unsatisfactory and not in compliance with the Contract.
6. Listed DBE is ineligible to work on the project because of suspension or debarment.
7. Listed DBE becomes bankrupt or insolvent.
8. Listed DBE voluntarily withdraws with written notice from the Contract.
9. Listed DBE is ineligible to receive credit for the type of work required.
10. Listed DBE owner dies or becomes disabled resulting in the inability to perform the work on the Contract.
11. Department determines other documented good cause under 49 CFR 26.53.

Notify the original DBE of your intent to use other forces or material sources and provide the reasons. Provide the DBE with 5 business days to respond to your notice and advise you and the Department of the reasons why the use of other forces or sources of materials should not occur. Your request to use other forces or material sources must include:

1. 1 or more of the reasons listed in the preceding paragraph
2. Notices from you to the DBE regarding the request
3. Notices from the DBE to you regarding the request

If the Department authorizes the termination or substitution of a listed DBE, make good faith efforts to find another DBE. The substitute DBE must (1) perform at least the same dollar amount of work as the original DBE under the Contract to the extent needed to meet the DBE goal and (2) be certified as a DBE with the work code applicable to the type of work the DBE will perform on the Contract at the time of your request for substitution. Submit your documentation of good faith efforts within 7 days of your request for authorization of the substitution. The Department may authorize a 7-day extension of this submittal period at your request. Refer to 49 CFR 26 app A for guidance regarding evaluation of good faith efforts to meet the DBE goal.

Unless the Department authorizes a request to terminate or substitute a listed DBE, the Department does not pay for work unless it is performed or supplied by the DBE listed on the DBE Commitment form. You may be subject to other sanctions under 49 CFR 26.

5-5 PROSECUTION AND PROGRESS

5-5.01 SCHEDULE

Schedules will be required for this contract and must conform to requirements of Section 8-1.02, "Schedule," of the Standard Specifications and these Special Provisions.

You must submit three (3) copies of initial schedules before or at the Preconstruction Conference. The Engineer will review schedules and if not acceptable return review copy within three (3) working days after the receipt. If required, you must resubmit revised schedules within three (3) working days after return of review copy. A Notice to Proceed may be issued, but work will not be allowed to commence until the City has reviewed and approved the schedule.

A two-week rolling schedule must also be updated and provided to the Engineer at the beginning of each work week. The two-week rolling schedule must include your proposed daily activities and location(s) of work during the coming two-week period. During the contract period, you must also coordinate his activities daily with the Engineer.

No progress payments will be made for any work if schedules are not provided to the Engineer pursuant to this section.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Mobilization includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-5.02 PAYMENT OF WITHHELD FUNDS

Payment of withheld funds must conform to Section 9, "Payment," of the Standard Specifications and these Special Provisions.

Funds withheld from progress payments to ensure performance of the contract that are eligible for payment into escrow or to an escrow agent pursuant to Section 10263 of the California Public Contract Code do not include funds withheld or deducted from payment due to your failure to fulfill a contract requirement.

5-5.03 PROMPT PROGRESS PAYMENT TO SUBCONTRACTORS

Attention is directed to the provisions in Sections 10262 and 10262.5 of the Public Contract Code and Section 7108.5 of the Business and Professions Code concerning prompt payment to subcontractors.

A prime contractor or subcontractor must pay any subcontractor not later than seven (7) days of receipt of each progress payment in accordance with the provision in Section 7108.5 of the California Business and Professions Code concerning prompt payment to subcontractors. The seven (7) days is applicable unless a longer period is agreed to in writing. Any delay or postponement of payment over thirty (30) days may take place only for good cause and with the Department's prior written approval. Any violation of Section 7108.5 will subject the violating contractor or subcontractor to the penalties, sanction and other remedies of that section. This requirement must not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to the contractor or subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

5-5.04 PROMPT PAYMENT OF WITHHELD FUNDS TO SUBCONTRACTORS

The Department will hold retainage from you and will make prompt and regular incremental acceptances of portions, as determined by the Department, of the contract work, and pay retainage to you based on these acceptances. You or your subcontractor, must return all monies withheld in retention from a subcontractor within thirty (30) days after receiving payment for work satisfactorily completed and accepted including incremental acceptances of portions of the contract work by the Department. Federal law (49CFR26.29) requires that any delay or postponement of payment over thirty (30) days may take place only for good cause and with the Department's prior written approval. Any violation of this provision will subject the violating prime contractor or subcontractor to the penalties, sanctions and other remedies specified in Section 7108.5 of the Business and Professions Code. These requirements must not be construed to limit or impair any contractual, administrative, or judicial remedies otherwise available to you or your subcontractor in the event of a dispute involving late payment or nonpayment by the prime contractor, deficient subcontract performance, or noncompliance by a subcontractor.

5-5.05 WORKING DAYS AND HOURS OF WORK

Attention is directed to Section 8-1.05, "Time," of the Standard Specifications and these Special Provisions.

Unless otherwise stated in these Special Provisions, construction activities throughout the entire duration of the project will be limited to the hours of 7:00 a.m. to 5:00 p.m., Monday through Friday except legal holidays. Machines and equipment must not be operated prior to 8:00 a.m. nor past 5:00 p.m. Materials or equipment must not be delivered prior to 7:30 a.m. nor past 5:00 p.m. Machines or equipment must not be cleaned or serviced past 6:45 p.m.

The City of Napa recognized holidays located in Appendix A is used to determine the legal holidays.

If you desire to work on Saturdays, Sundays, City holidays, or hours beyond those stated above, you must submit a written request to the Engineer for approval. The request must state the reason for the change in the working day or schedule, and must be submitted a minimum of five (5) working days prior to the requested change.

The Engineer will approve or deny the request within three (3) working days and advise you in writing of his decision. The Engineer's decision will be final. If the request is approved, you will be required to pay the cost of providing inspection services for the work being performed. If inspection services are not available for the requested change, the Engineer may deny the request.

5-5.06 TERMINATION OF CONTROL

Attention is directed to Section 8-1.13, "Contractor's Control Termination," of the Standard Specifications and these Special Provisions:

If, in the opinion of the Engineer, you have at any time during the life of the contract:

a. failed to supply an adequate working force or equipment

b. failed to supply materials of specified quality

c. failed to comply with these Special Provisions

To the extent that such failures violate the intent of the contract, the Engineer will give notice thereof in writing to you and specify in said notice a day by which you must attain full compliance with the provisions of the contract relating to said failures. Should you fail to comply with said notice within the time specified, the Engineer will have full power to temporarily suspend the operation of the contract pending final decision by the Engineer as to termination of the contract.

Notice of temporary suspension will be given to you in writing and a copy thereof will be filed with the Engineer. Upon receipt of said temporary suspension notice, your control of the work will temporarily cease and you must not work on any part of the contract. Within fifteen (15) days of receipt of said notice of temporary suspension, the Engineer will decide whether sufficient grounds are present for termination of your control over the work.

Should the Engineer decide that you have failed to provide means for satisfactory compliance with the contract as directed by the Engineer, within the time specified in the notice to comply, the Engineer will have the power to suspend the operation of the contract.

Upon receiving notice of such suspension, you must discontinue said work, or such parts of it as the Council may designate. Upon such suspension, your control will terminate and thereupon the Council or its duly authorized representative may take possession of all or any part of your materials, tools, equipment and appliances upon the premises, and use the same for the purpose of completing said contract, and hire such force and buy or rent such additional machinery, tools, appliances and equipment and buy such additional materials and supplies at your expense as may be necessary for the proper conduct of the work and for the completion thereof; or may employ other parties to carry the contract to completion, employ the necessary workmen, substitute other machinery or materials and purchase the materials contracted for, in such manner as the Engineer may deem proper; or the Engineer may annul and cancel the contract and relet the work or any part thereof. Any excess of cost arising therefrom over and above the contract price will be charged against you and your sureties, who will be liable therefore.

In the event of such suspension, all money due to you or retained under the terms of this contract will be forfeited to the City, but such forfeiture will not release you or your sureties from liability for failure to fulfill the contract. You and your sureties will be credited with the amount of money so forfeited toward any excess of cost over and above the contract price, arising from the suspension of the operations of the contract and the completion of the work by the City as above provided and you will be so credited with any surplus remaining after all just claims for such completion have been paid.

On completion of the contract, the original Contractor will be entitled to the return of all unused materials, equipment, tools, and appliances, except that they will have no claim on account of unusual and ordinary depreciation, loss and wear and tear.

In the determination of the question whether there has been any such non-compliance with the contract as to warrant the suspension or annulment thereof, the decision of the Engineer will be binding on all parties to the contract.

5-5.07 PERFORMANCE OF SURETIES

In the event of any termination as hereinbefore provided, the Engineer will immediately give written notice thereof to you and to your sureties, and the sureties will have the right to take over and perform the contract; provided, however, that if the sureties, within five (5) days after receiving, said notice of termination, do not give the City written notice of their intention to take over the performance of the contract, and do not commence performance thereof within five (5) days after notice to the City of such election, the City may take over the work and prosecute the same to completion as hereinbefore provided.

5-6 MEASUREMENT AND PAYMENT

5-6.01 PAYMENT

Attention is directed to Sections 9-1.16, “Progress Payments” and 9-1.17, “Payment After Contract Acceptance,” of the Standard Specifications and these Special Provisions.

City of Napa Charter Section 102, “Progressive Payments on Contracts”, requires a ten percent (10%) retention on Public Works contracts. The City of Napa will retain ten percent (10%) of the value of all work done, including Mobilization, as part security for the fulfillment of the contract by you.

No partial payment will be made for any materials on hand which are furnished but not incorporated in the work.

5-6.02 GUARANTEE

You hereby guarantee that all work performed and materials provided under the contract will meet fully with the requirements of the contract documents.

You guarantee all materials and workmanship against defects for a period of one (1) year, unless noted otherwise, from the date of final acceptance of all work performed under the contract. “Final acceptance” as used herein is the filing of a “Notice of Completion” with the County Recorder by the City Engineer.

You assume responsibility for a similar one-year guarantee, unless noted otherwise, for all work and materials provided or performed by subcontractors, manufacturers, or suppliers.

You hereby agree that if, within a period of one (1) year, unless noted otherwise, after final acceptance of the work performed under the contract, any portion of the work installed, constructed, or performed by him fails to fulfill any of the requirements of the contract, you will, without delay and with the least practicable inconvenience and without further cost to the City, repair or replace defective or otherwise unsatisfactory work or materials.

Should you fail to act promptly in accordance with this requirement, or should the exigencies of the case require repairs or replacements to be made before you can be notified or can respond to notification, the City may at its option make the necessary repairs or replacements, or perform the necessary work, and you must pay to the City the actual cost of such repairs plus fifteen percent (15%).

You will be responsible for the full expense incidental to making good any and all of the above guarantees and agreements. The above guarantees and agreements are covenants, the performance of which will be binding upon you and your sureties.

The final acceptance of the work will be contingent upon your guaranty which may be either an extension of the original Faithful Performance Bond or a separate Maintenance Bond in the amount of ten percent (10%) of the final contract price in favor of the City. Should you not file said bond as required herein, the City may retain the remaining ten percent (10%) of the final contract price as a cash bond for said one (1) Year period.

MEASUREMENT AND PAYMENT – The contract lump sum price for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-6.03 RECORDS

You must maintain cost accounting records for the contract pertaining to, and in such a manner as to provide a clear distinction between, the following six categories of costs of work during the life of the contact:

A. Direct costs of contract item work.

B. Direct costs of changes in character in conformance with Section 4-1.05B, "Work-Character Changes," of the Standard Specifications.

C. Direct costs of extra work in conformance with Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

D. Direct costs of work not required by the contract and performed for others.

E. Direct costs of work performed under a notice of potential claim in conformance with the provisions in Section 5-1.43, “Potential Claims and Dispute Resolution,” of the Standard Specifications.

F. Indirect costs of overhead.

Cost accounting records must include the information specified for daily extra work reports in Section 5-1.27D, “Cost Accounting Records,” of the Standard Specifications and these Special Provisions. The requirements for furnishing the Engineer completed daily extra work reports will only apply to work paid for on a force account basis.

The cost accounting records for the contract must be maintained separately from other contracts, during the life of the contract, and for a period of not less than three (3) years after the date of acceptance of the contract. If you intend to file claims against the City, you must keep the cost accounting records specified above until complete resolution of all claims has been reached.

MEASUREMENT AND PAYMENT – The contract lump sum price for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

5-6.04 EXTRA WORK/FORCE ACCOUNT

Attention is directed to Sections 4-1.05 “Changes and Extra Work” and 9-1.04 “Force Account” of the Standard Specifications and these Special Provisions.

All extra work or force account work must be completed upon written direction and approval from the City. All daily extra work reports (DEWR) must be submitted to the project inspector by twelve (12) noon the following working day. The DEWR must only list the labor, hours, materials and equipment used to perform the extra work. The DEWR reports must be on triplicate forms. When the project inspector signs the form, you will be given a copy for your records. If the project inspector is not available for review of the DEWR’s, then you must submit the form to the Engineer within the stated timeframe for approval.

Completed billing for extra work, showing full cost extensions must be submitted to the project Engineer within fifteen (15) working days from the time the extra work was completed along with all backup invoices and material tags.

Your DEWR form and billing, as approved by the Engineer, must be submitted for approval at the preconstruction meeting. The City will approve the forms or require modifications within three (3) working days after being submitted.

SECTION 6 NOT USED

SECTION 7 NOT USED

SECTION 8 MATERIALS

8-1 MISCELLANEOUS

8-1.01 PREQUALIFIED AND TESTED SIGNING AND DELINEATION MATERIALS

Attention is directed to the most current State of California Department of Transportation, Authorized Materials List for “Signing Delineation Materials.”

SECTION 9 NOT USED

SECTION 10 CONSTRUCTION DETAILS

10-1 GENERAL

10-1.01 ORDER OF WORK

As required by these Special Provisions, you must follow the sequence of operations as set forth herein.

As the first order of work, in accordance with the requirements in the section titled “Construction Area Signs” of these Special Provisions, you must notify business owners, and property owners of the upcoming work, then implement the Traffic Control Pedestrian Access Plan pursuant to the section titled “Maintaining Traffic” of these Special Provisions. The cost thereof will be included in the contract prices paid for Traffic Control, and no additional compensation will be allowed therefor.

10-1.02 WATER POLLUTION CONTROL

Water pollution control work must conform to the provisions in Section 13, "Water Pollution Control," of the Standard Specifications and these Special Provisions.

GENERAL

The goal of these requirements is to prevent the pollution of storm water runoff from construction projects by keeping pollution out of storm drains, reducing the exposure and discharge of materials and wastes to storm water, and by reducing erosion and sedimentation. Storm drains discharge runoff directly to creeks and the river without treatment. You must abide by all federal, state, and local regulations regarding water quality as it is affected by construction activities. Specifically, you must prepare and submit an Erosion and Sediment Control Plan for the Engineer’s approval that describes and pictorially shows how the following requirements must be met on all projects within the City of Napa.

A. Non hazardous Material / Waste Management

1. Designated Area - You must propose designated areas of the project site and any staging areas, for approval by the Engineer, suitable for material delivery, storage, and waste collection that, to the maximum extent practicable, are near construction entrances and away from catch basins, gutters, drainage courses and creeks.
2. Granular Material –
    a. You must store granular material at least ten feet away form catch basin and curb returns.
    b. You must not allow granular material to enter the storm drains or creeks.

c. When rain is forecast within 24 hours or during wet weather, the Engineer may require you to cover granular material with a tarpaulin and to surround the material with gravel bags.

3. Dust Control

a. You must use reclaimed water to control dust on a daily basis or as directed by the Engineer.

4. Street Sweeping

a. At the end of each working day or as directed by the Engineer, you must clean and sweep roadways and on-site paved areas of all materials attributed to or involved in the work. You must not use water to flush down streets in place of street sweeping.

5. Recycling

a. You must recycle aggregate base material, hot mix asphalt, and Portland cement concrete.

b. In addition, to the maximum extent practicable, You must reuse or recycle any useful construction materials generated during the project providing the material complies with State and Federal regulations.

6. Disposal

a. At the end of each working day, you must collect all scrap, debris, and waste material, and dispose of such materials properly.

b. You must inspect dumpsters for leaks and contact trash hauling contractors to replace or repair dumpsters that leak.

c. You must not discharge water on-site from cleaning dumpsters.

d. You must arrange for regular waste collection before dumpsters overflow.

B. Hazardous Material / Waste Management

1. Storage

a. You must label and store all hazardous materials, such as pesticides, paints, thinners, solvents, and fuels; and all hazardous wastes, such as waste oil and antifreeze; in accordance with the City of Napa Hazardous Materials Storage Ordinance and all applicable State and Federal regulations.

b. You must store all hazardous materials and all hazardous wastes in accordance with secondary containment regulations. As needed, these materials and wastes are to be covered to avoid potential management of collected rain water as a hazardous waste.

c. You must keep an accurate, up-to-date inventory, including Material Safety Data Sheets (MSDSs), of hazardous materials and hazardous wastes stored on-site, to assist emergency response personnel in the event of a hazardous materials incident.

2. Usage

a. When rain is forecast within 24 hours or during wet weather, the Engineer may prevent you from applying chemicals in outside areas.

b. You must not over-apply pesticides or fertilizers and must follow material manufacturer's instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals. Over-application of a pesticide constitutes a "label violation" subject to an enforcement action by the Napa County Agriculture Department.

3. Disposal

a. You must arrange for regular hazardous waste collection to comply with time limits on storage of hazardous wastes.

b. You must dispose of hazardous waste only at authorized and permitted Treatment, Storage, and Disposal Facilities, and use only licensed hazardous waste haulers to remove the waste off-site, unless quantities to be transported are below applicable threshold limits for transportation specified in State and Federal regulations.

C. Spill Prevention and Control

1. You must keep a Spill Prevention Kit with spill cleanup materials, such as rags or absorbents, readily accessible on-site.
2. You must immediately contain and prevent leaks and spills from entering storm drains, and properly clean up and dispose of the waste and cleanup materials. If the waste is hazardous, you must handle the waste as described in section B.3.b. above.
3. You must not wash any spilled material into streets, gutters, storm drains, or creeks and must not bury spilled hazardous materials.
4. You must report any hazardous materials spill to City of Napa Dispatch at (707) 257-9223.

D. Vehicle / Equipment Cleaning

1. You must not perform vehicle or equipment cleaning on-site, in any staging area or in the street using soaps, solvents, degreasers, steam cleaning equipment, or equivalent methods.
2. You must perform vehicle or equipment cleaning, with water only, in a designated, bermed area that will not allow rinse water to run off-site or into streets, gutters, storm drains, or creeks.

E. Vehicle / Equipment Maintenance and Fueling

1. You must perform maintenance and fueling of vehicles or equipment in a designated, bermed area or over a drip pan that will not allow run-on of storm water or runoff of spills.
2. You must use secondary containment, such as a drip pan, to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured.
3. You must keep a Spill Prevention Kit with spill cleanup materials, such as rags or absorbents, readily accessible on-site.
4. You must clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste, as described in section B.3.b. above.
5. You must not wash any spilled material into streets, gutters, storm drains, or creeks and must not bury spilled hazardous materials.
6. You must report any hazardous materials spill to City of Napa Dispatch at (707) 257-9223.
7. You must inspect vehicles and equipment arriving on-site for leaking fluids and must promptly repair leaking vehicles and equipment. Drip pans must be used to catch leaks until repairs are made.
8. You must recycle waste oil and antifreeze, to the maximum extent practicable.
9. You must comply with Federal, State, and City requirements for aboveground storage tanks.

F. Contractor Training and Awareness

1. You must train all employees/ subcontractors on the storm water pollution prevention requirements contained in these Special Provisions.
2. You must inform subcontractors of the storm water pollution prevention contract requirements and include appropriate subcontract provisions to ensure that these requirements are met.
3. You must post warning signs in areas treated with chemicals.

ACTIVITY-SPECIFIC REQUIREMENTS –

The following requirements must be met on all projects within the City of Napa that include the listed activities.

A. Dewatering Operations

1. Sediment Control
   a. You must route water through a control measure, such as a sediment trap, sediment basin, or Baker tank to remove settleable solids prior to discharge to the storm drain system.
   b. Approval of the control measure must be obtained in advance from the Engineer.
   c. Filtration of the water following the control measure may be required on a case-by-case basis
   d. If the Engineer determines that the dewatering operation would not generate an appreciable amount of settelable solids, the control measure requirement in (a.) above may be waived.
   e. You must reuse water for other needs, such as dust control or irrigation, to the maximum extent practicable.
2. Contaminated Groundwater
   a. If the project is with in an area of known groundwater contamination, then water from dewatering operations must be tested prior to discharge. If the water quality meets Regional Water Quality Control Board (RWQCB) standards, then it may be discharged to the storm drain. If the water quality meets City of Napa Municipal Code section 8.36, then it may be discharged to the sanitary sewer with prior approval from the Napa Sanitation District. Otherwise, the water must be treated or hauled off-site for proper disposal.
   b. If the project is not within an area of known groundwater contamination, then monitoring must only be required if directed by the Engineer. You must follow section A.2.a above, if contamination is found.
   c. If the project is found to be within an area of groundwater contamination not identified by the City in the project specifications, a change order must be negotiated to cover additional work performed by you pursuant to Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

B. Paving Operations

1. Project Site Management
   a. When rain is forecast within 24 hours or during wet weather, the Engineer may prevent you from paving.
   b. The Engineer may direct you to protect drainage courses by using control measures, such as earth dikes, gravel check dams, fiber rolls, gravel bags, and sand bags, to divert runoff or trap and filter sediment.
   c. You must place drip pans or absorbent material under paving equipment when not in use.
   d. You must cover catch basins and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
2. Paving Waste Management
   a. You must not sweep or wash down excess sand placed as part of a sand seal or to absorb excess oil) into gutters, storm drains, or creeks. Instead, you must either, collect the sand and return it to the stockpile, or dispose of it in a trash container. You must not use water to wash down fresh hot mix asphalt.

C. Saw Cutting

1. During saw cutting, you must cover or barricade catch basins using control measures, such as filter fabric, sand bags, and fine gravel dams, to keep slurry out of the storm drain system. When protecting a catch basin, you must ensure that the entire opening is covered.
2. You must shovel, absorb, and vacuum saw cut slurry and pick up the waste prior to moving to the next location or at the end of each working day, whichever is sooner.
3. If saw cut slurry enters catch basins, you must remove the slurry from the storm drain system immediately.

Contaminated Soil Management

4. On all projects involving grading or excavation, you must look for contaminated soil as evidenced by site history, discoloration, odor, differences in soil properties, abandoned underground tanks or pipes, or buried debris. If the project is not within an area of known soil contamination and no evidence of soil contamination is found, then testing of the soil will only be required if directed by the Engineer. You must follow section D.2 and D.3 below, if contamination is found.
5. If the project is within an area of known soil contamination or evidence of soil contamination is found, then soil from grading or excavation operations must be tested. The soil must be managed as required by the Napa County Environmental Health Department or other agency.
6. If the project is found to be within an area of soil contamination not identified by the City in the project specifications, a change order will be negotiated to cover additional work performed by you pursuant to Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

D. Concrete, Grout, and Mortar Waste Management

1. Material Management - You must store concrete, grout, and mortar away from drainage areas and ensure that these materials do not enter the storm drain system.
2. Concrete Truck/Equipment Wash Out
   a. You must not wash out concrete trucks or equipment into streets, gutters, storm drains, or creeks.
   b. You must perform washout of concrete trucks or equipment off-site or in a designated area on-site where the water will flow onto a temporary plastic lined pit or bermed area. Once concrete hardens, you must transport it to Napa Recycling & Waste Services located at 820 Levitin Way in Napa, for recycling. Allow wash water to evaporate.

E. Earthwork - You must maximize the control of erosion and sediment by using the BMPs for erosion and sedimentation in the latest edition of the *California Storm Water Best Management Practice Handbook – Construction Activity*.

F. Striping, Pavement Markings, and Pavement Markers Removal and Installation

1. You must conform to the provisions of the sub-section titled "A. Non hazardous Material/Waste Management," of this "Water Pollution Control" section.

MEASUREMENT AND PAYMENT – The contract lump sum price for Water Pollution Control includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, including the preparation and maintenance of a Erosion and Sediment Control Plan, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.03 PRECONSTRUCTION CONFERENCE

Attention is directed to Section 8-1.03, “Preconstruction Conference,” of the Standard Specifications and these Special Provisions.

A preconstruction conference will be held after the contract is signed and prior to issuance of the Notice to Proceed. The Engineer will designate the time and place. You (and major subcontractors as required) must attend the meeting. Your representative at this conference must include all major superintendents for the work and may include major subcontractors.

At, or prior to, this meeting, you must submit:

1. A copy of their City of Napa business license
2. A letter or memorandum designating the authorized representative who will have authority to represent and act for you during the entire contract period
3. A letter or memorandum designating two 24-hour emergency contact persons and their telephone numbers.
4. A project schedule per the section titled “Schedule” of these Special Provisions.
5. A Traffic Control and Pedestrian Access Plan per the section titled “Maintaining Traffic” of these Special Provisions

MEASUREMENT AND PAYMENT – The contract lump sum price for Mobilization includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.04 COORDINATION WITH OTHER ENTITIES

Attention is directed to Sections 5-1.20, “Coordination with Other Entities”, 5-1.36D, “Nonhighway Facilities,” of the Standard Specifications Attention is directed to the section titled “Maintaining Traffic” of these Special Provisions regarding access to and from private property.

MEASUREMENT AND PAYMENT – The contract lump sum price for Mobilization includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.05 OBSTRUCTIONS

Attention is directed to Section 5-1.36D, “Nonhighway Facilities” and Section 15, "Existing Facilities," of the Standard Specifications and these Special Provisions.

Attention is directed to the existence of certain underground facilities that may require special precautions be taken by you to protect the health, safety and welfare of workers and of the public. You must notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	(800) 642-2444 (800) 227-2600

MEASUREMENT AND PAYMENT – The contract lump sum price for Traffic Control includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.06 MOBILIZATION

Attention is directed to Section 9-1.16D, "Mobilization," of the Standard Specifications.

MEASUREMENT AND PAYMENT – The contract lump sum price for Mobilization includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.07 TEMPORARY TRAFFIC CONTROL

Flagging, signs, and all other traffic control devices furnished, installed, maintained, and removed when no longer required must conform to the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications and these Special Provisions.

Category 1 traffic control devices are defined as those devices that are small and lightweight (less than 45 kg), and have been in common use for many years. The devices must be known to be crashworthy by crash testing, crash testing of similar devices, or years of demonstrable safe performance. Category 1 traffic control devices include traffic cones, plastic drums, portable delineators, and channelizes.

If requested by the Engineer, you must provide written self-certification for crashworthiness of Category 1 traffic control devices. Self-certification must be provided by the manufacturer or you and must include the following: date, Federal Aid number (if applicable), expenditure authorization, district, county, route and kilometer post of project limits; company name of certifying vendor, street address, city, state and zip code; printed name, signature and title of certifying person; and an indication of which Category 1 traffic control devices will be used on the project. You may obtain a standard form for self-certification from the Engineer.

Category 2 traffic control devices are defined as those items that are small and lightweight (less than 45 kg), that are not expected to produce significant vehicular velocity change, but may otherwise be potentially hazardous. Category 2 traffic control devices include: barricades and portable sign supports.

Category 2 devices purchased on or after October 1, 2000 must be on the Federal Highway Administration (FHWA) Acceptable Crashworthy Category 2 Hardware for Work Zones list. This list is maintained by FHWA and can be located at the following internet address: http://safety.fhwa.dot.gov/fourthlevel/hardware/listing.cfm?code=workzone. The Department maintains a secondary list at the following internet address: http://www.dot.ca.gov/hq/traffops/signtech/signdel/pdf.htm.

If requested by the Engineer, you must provide a written list of Category 2 devices to be used on the project at least five (5) days prior to beginning any work using the devices. For each type of device, the list must indicate the FHWA acceptance letter number and the name of the manufacturer.

MEASUREMENT AND PAYMENT – The contract lump sum price for Traffic Control includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, including providing self-certification for crashworthiness of Category 1 traffic control devices and for providing a list of Category 2 devices used on the project and labeling Category 2 devices as specified, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.08 CONSTRUCTION AREA SIGNS

Construction area signs must be furnished, installed, maintained, and removed when no longer required in conformance with the provisions in the section titled, "Temporary Traffic Control," of these Special Provisions.

Attention is directed to the section titled, "Prequalified and Tested Signing and Delineation Materials," of these Special Provisions. Type II retroreflective sheeting must not be used on construction area sign panels.

You must notify the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to commencing excavation for construction area sign posts. The regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert-Northern California (USA)	1-800-642-2444 1-800-227-2600

Excavations required to install construction area signs must be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes.

Sign substrates for stationary mounted construction area signs may be fabricated from fiberglass reinforced plastic as specified under "Prequalified and Tested Signing and Delineation Materials" of these Special Provisions.

You may be required to cover certain signs during the progress of the work. Signs that are no longer required or that convey inaccurate information to the public must be immediately covered, removed, or the information must be corrected. Covers for construction area signs must be of sufficient size and density to completely block out the complete face of the signs. The retroreflective face of the covered signs must not be visible either during the day or at night. Covers must be fastened securely so that the signs remain covered during inclement weather. Covers must be replaced when they no longer cover the signs properly.

You must notify residents and property owners in writing forty-eight (48) hours (excluding weekends and holidays) prior to performing any work at the site.

The notification form to be provided to residents and property owners must be submitted to the City for review and approval. Attention is directed to the section titled “Submittals,” of these Special Provisions. Street parking may be restricted as necessary to facilitate construction activity. “No Parking” signs, as

required, must be placed by you forty-eight (48) hours in advance of the parking restriction. “No Parking” signs must have the following information:

“Tow Away, No Parking

Date of Restriction

Time of Restriction

Construction Zone

“Vehicles in Violation Subject to Tow at Owner’s Expense”

“Napa Police Department: 707-257-9223"

CVC 22658 (1); CVC 22651 (L)

“No Parking” signs must have red letters on a white background. “No Parking” signs must be spaced no more than thirty (30) feet apart. The City can provide “No Parking” signs at your request. You will not be allowed to restrict parking in all areas of the project for the entire duration of the project to facilitate their work. The placement of “No Parking” signs must be conducted in a manner that reasonably reflects the location of the work at any given time during the project.

You must maintain or update information contained on the signs on a daily basis.

The cost of furnishing, installing, maintaining and removing signs, sign covers, lights, flares, temporary railing, barricades, flagmen, guards and all construction area traffic control devises will be borne by you.

MEASUREMENT AND PAYMENT – The contract lump sum price for Traffic Control includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.09 MAINTAINING TRAFFIC

Attention is directed to Sections 7-1.03, "Public Convenience" and 12-4, “Maintaining Traffic,” of the Standard Specifications and the section titled, "Public Safety," of these Special Provisions. Nothing in these Special Provisions will be construed as relieving you from the responsibilities specified in the Standard Specifications.

You must furnish and erect Standard W20-1 “Road Work Ahead” and Standard G20-2 “End Road Work” signs to provide advance warning to the traffic at the job site. W20-1 and G20-2 signs must also be installed along all side streets entering the work area. You must submit a traffic control plan that includes the exact locations of the signs.

Prior to the beginning of work and up to the time the new improvements are opened to the public, you must erect and maintain necessary signs and barricades as required in these Special Provisions.

Lane closures must conform to the provisions in section "Traffic Control System for Lane Closure" of these Special Provisions. The term closure, as used herein, is defined as the closure of a traffic lane or lanes, including ramp or connector lanes, within a single traffic control system. Bicycle traffic must be maintained per these Special Provisions.

Lane closures must conform to the provisions in section "Traffic Control System for Lane Closure" of these Special Provisions. The term closure, as used herein, is defined as the closure of a traffic lane or lanes, including ramp or connector lanes, within a single traffic control system. Bicycle traffic must be maintained per these Special Provisions.

You must provide for the safe and orderly movement of traffic at all times during construction. On all streets, one (1) lane in each direction must be maintained at all times. Temporary street closures or providing only one (1) lane for both directions may be approved by the Engineer provided adequate circulation is maintained and/or adequate flagmen and signage satisfactory. Any lane closures must be limited to the hours of 9:00 AM to 4:00 PM unless approved by the Engineer.

Any street closures must be approved by the Engineer. If you desire a street closure, you must submit a written request, accompanied with a traffic control plan, to the Engineer for review and approval. The request must state the reason, locations, and times for the closure, and must be submitted a minimum of five (5) working days prior to the request.

The Engineer will approve or deny the request within three (3) working days after the receipt of the street closure request. If the street closure request is approved, then you must notify the Police and Fire Department of the City, the Division of Forestry, local ambulance services, the V.I.N.E. Bus Service, Napa Garbage Service, Napa Valley Unified School District Transportation Department, and the U.S. Post Office in writing, forty-eight (48) hours in advance of all lane/street closures and keep the Fire Department posted at all times regarding available access to the streets. You must also notify United Parcel Service (UPS), Federal Express, and other mail delivery services of planned lane/street closures and the current schedule.

No vehicular detours will be allowed unless approved by the Engineer. Pedestrian detours are required whenever existing sidewalk or pedestrian paths of travel are closed or obstructed. All detours must be clearly signed and included on the traffic control plans supplied by you.

No street closures will be allowed overnight.

Access for emergency vehicles must be provided for at all times. Any repairs due to damage caused by emergency vehicle usage during the periods of street closure must be paid for as extra work.

You must furnish, install, maintain, and remove barricades, lights and signs as required, and must provide flagmen and other facilities to safeguard adequately the general public, local pedestrian and vehicle traffic, and the work as may be deemed necessary by the Engineer during working and non-working hours.

Traffic signs, flashing lights, lighted arrow boards, barricades, temporary railings, and other traffic safety devices used to control traffic must conform to the requirements of the section titled, “Temporary Traffic Control,” of these Special Provisions and the current edition of the Manual of Uniform Traffic Control Devices (including the California Supplement). Flashing lights must be provided on each barricade. You must inspect all safety devices at the beginning of each work day.

You must take extra care to minimize disruption to the adjacent residences/businesses during the progress of work. You must provide access to all residences and/or businesses at all times during the progress of the work. It may be necessary for you to provide and place steel plating in order to provide access for vehicular traffic. You must phase the work to ensure that access to each residence and business is provided at all times. Commercial driveways must be provided with at least ten (10) feet wide of unobstructed opening at all times, except as outlined below.

Subject to the notification of property owners and approved in advance by the Engineer in writing, temporary closure of driveways may be allowed per these Special Provisions. However a driveway must not remain closed outside of the hours of work as specified in the section titled, “Working Days and Hours of Work,” of these Special Provisions unless otherwise authorized by the Engineer. If a property has more than one (1) driveway, no more than one (1) driveway closure will be allowed at any time unless otherwise approved by the Engineer. Prior to closure of driveways, you must coordinate and notify the property owner or resident at least twice of such closure. Closure notices must be given to the property owner and/or resident twenty-four (24) hours **and** one (1) hour prior to each closure. A copy of the closure notice must be furnished to the Engineer for review and approval prior to each closure.

You must file, with the Engineer and Police Department, the name and telephone number of his representative (provide minimum two contacts) to be notified after normal working hours and on weekends, in case of emergency. This information must be provided at the preconstruction conference. If a preconstruction conference is not held, it must be provided to the Engineer prior to the start of work.

You must submit, prior to or at the preconstruction conference, a Traffic Control and Pedestrian Access Plan which conforms to all requirements of the Standard Specifications these Special Provisions. This plan must include all lane closures, construction area signs, flag protection, changeable message signs, detours, pedestrian access routes and parking prohibitions. Traffic control plans must conform to the most current edition of the "California Manual on Uniform Traffic Control Devices for Streets and Highways". No work will commence prior to the submittal and approval of a satisfactory Traffic Control and Pedestrian Access Plan. A Traffic Control and Pedestrian Access Plan will not be deemed satisfactory unless it conforms to the requirements of the aforementioned manual. More than one Traffic Control and Pedestrian Access Plan may be required for different phases of the work, and each plan must conform to the requirements of these Special Provisions and the Standard Specifications.

MEASUREMENT AND PAYMENT – The contract lump sum price for Traffic Control includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.10 LANE CLOSURE REQUIREMENTS AND CONDITIONS

Lane closures, if approved by the Engineer, must conform to the provisions in the section titled, "Maintaining Traffic," of these Special Provisions.

The term closure, as used herein, is defined as the closure of a traffic lane or lanes, including ramp or connector lanes, within a single traffic control system.

LANE CLOSURE SCHEDULE

By noon Monday, you must submit a written schedule of planned closures accompanied with a Traffic Control and Pedestrian Access Plan for the following week period, defined as Friday noon through the following Friday noon.

The Closure Schedule must show the locations and times when the proposed closures are to be in effect. Closure Schedules submitted to the Engineer with incomplete, unintelligible or inaccurate information will be returned for correction and resubmittal. You will be notified of disapproved closures or closures that require coordination with other parties as a condition of approval.

Amendments to the Closure Schedule, including adding additional closures, must be submitted to the Engineer, in writing, at least three (3) working days in advance of a planned closure. Approval of amendments to the Closure Schedule will be at the discretion of the Engineer.

No lane closures will be allowed overnight.

MEASUREMENT AND PAYMENT – The contract lump sum price for Traffic Control includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.11 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE

A traffic control system for lane closures, if approved by the Engineer, will consist of closing traffic lanes and the provision of traffic detours, including but not limited to, furnishing, installing, maintaining and removal (when no longer required) of traffic control devises in accordance with the provisions of Section 12, “Temporary Traffic Control,” and the sections titled “Prequalified and Tested Signing and Delineation Materials”, “Maintaining Traffic”, and “Construction Area Signs,” of the Standard Specifications and these Special Provisions.

The provisions in this section will not relieve you from the responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in the section titled “Public Safety,” of these Special Provisions.

The adjustment provisions in Section 4-1.05, "Changes and Extra Work," of the Standard Specifications must not apply to the item of traffic control. Adjustments in compensation for traffic control will be made on a force account basis as provided in Section 9-1.04, "Force Account," of the Standard Specifications for increased work and estimated on the same basis in the case of decreased traffic control required by changes ordered by the Engineer to pre-approved traffic control plans.

The cost of furnishing, installing, maintaining and removing signs, sign covers, lights, flares, temporary railing, barricades, flagmen, guards and all construction area traffic control devises will be borne by you.

MEASUREMENT AND PAYMENT – The contract lump sum price paid for Traffic Control includes full compensation for furnishing all labor (including flagging and signs), material, tools, equipment, and incidentals, and for doing all the work involved in conforming to the provisions of this Section, including but not limited to placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the traffic control system, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as directed by the Engineer, and no additional compensation will be allowed therefor.

10-1.12 CONSTRUCTION WATER

Water required for the project must be taken through a hydrant meter supplied by the City. The backflow device provided with the hydrant meter must remain attached immediately behind the water meter with no exception. No direct connections to fire hydrants, use of unmetered water services, or unauthorized connections to the existing water system will be allowed.

You are responsible for paying the deposit and fee and all quantity charges associated with the use of the hydrant meter and backflow device. Fees are to be paid at the City of Napa’s Finance Department in City Hall at 955 School Street in Napa with the copy of the Construction Water Request Form.

You are fully responsible for protecting the meter, backflow device, and hydrant serving the hydrant meter from damages. Your deposit will not be returned if the equipment is lost, damaged, or stolen, and you will be required to obtain a new working hydrant meter from the City with payment of a new deposit.

You may not relocate a hydrant meter and backflow device. You must contact the City’s Corporation Yard at 707-257-9544 for hydrant meter relocation requests. You will be billed for each meter relocation. You must additionally contact the City’s Corporation Yard when they are finished with the hydrant meter and want to close the account. Upon return of the hydrant meter and backflow device in good working order and undamaged, $1,750 will be refunded to you. Any repairs or damages to the hydrant meter and/or backflow device will be deducted from the refund.

The current fees for construction water as of October 1, 2015, are as follows:

Connection Charges	
Hydrant Meter Deposit	$1,750.00
Hydrant Meter Set Fee (non-refundable)	$140.00
Moving Meter within Project	$173.00
Construction Water Rates	
Each 1,000 gallons	$8.23
Per day service charge (2-day minimum)	$10.00
Per week (7 days) service charge	$50.00

Meter will be set within two (2) working days of receipt of payment.

MEASUREMENT AND PAYMENT – The contract lump sum price for Control of Work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no additional compensation will be allowed therefor.

SECTION 11 NOT USED

SECTION 12 NOT USED

SECTION 13 NOT USED

SECTION 14 FEDERAL LAWS FOR FEDERAL-AID CONTRACTS

Attention is directed to Section 7-1.11, “Federal Laws for Federal-Aid Contracts” of the Standard Specifications and to Appendix D of these Special Provisions.

DIVISION 1 – GENERAL REQUIREMENTS

SECTION 01 35 91

HISTORIC TREATMENT PROCEDURES

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Special procedures for historic rehabilitation.

1. Project includes rehabilitation in areas of historic significance; make every effort to comply with following requirements.

a. Match existing materials, where indicated, to maximum degree possible given present day material availability and craftsmanship.

b. Take special precautions in executing work to avoid damage to existing materials to remain.

c. Avoid unnecessary cutting and patching of existing materials to remain.

2. Close off, seal, mask or board up areas, materials and surfaces not receiving restoration and cleaning work, to protect from damage.

3. Buildings will be made available to those bidding work for review of existing materials; carefully examine materials and adjacent systems to assure total compliance.

a. Extent of materials of historic significance is subject to review and opinion of Architect and authorities having jurisdiction.

4. Exterior and interior of buildings are to be considered of historic significance.

5. Review each Specification section for applicable requirements for historic rehabilitation and renovation, and for matching of existing materials.

1.2 REFERENCES

A. U.S. Department of the Interior, National Park Service: "The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings."

B. U.S. Department of the Interior, National Park Service: “Preservation Briefs.”

C. U.S. Department of the Interior, National Park Service: “Preservation Tech Notes.”

D. 2013vCalifornia State Historical Building Code: Title 24, Part 8.

1.3 DESCRIPTION

A. Design and Performance Requirements: Conform to referenced U.S. Department of the Interior "Standards", “Preservation Briefs”, and “Preservation Tech Notes” unless more stringent requirements are indicated.

1.4 SUBMITTALS

A. Submit written request well in advance of executing the work, no cutting of or alteration to elements that effect the historic significance. Request shall include following information.

1. Identification of Project.
2. Description of affected work.
3. Description of proposed work including:

a. Scope of prep work.
b. Products proposed to be used.
c. Extent of protection to be included.

B. Submit written notice to Engineer designating date and time when the work will begin.

1.5 QUALITY ASSURANCE

A. Qualifications: You are to employ a qualified historic architectural consultant (per Secretary of Interior Standards Historic Preservation Professional Qualifications Standards) to monitor the work and prepare monthly and a final report to include assessments of the work in progress per the original scope of work as well as any work being provided or proposed not part of the original scope of work. The reports shall be submitted to the General Contractor and copied to the Engineer. The historic architectural consultant shall visit the site at least twice a month, provide field notes as part of the monthly field reporting process, indicate the date of the site visit and include photographic evidence of the work in progress. Reports should identify and recommend any modification or proposed change to original scope of work or schedule. Provide sufficient notice of proposed changes or modification prior to start of any proposed work.

1. Selection of SOI Qualified Historic Architectural Consultant: SOI qualified historic architectural consultant shall have minimum 5 years of experience. General Contractor to provide three proposals from qualified consultants to be reviewed by the Engineer to provide the monitoring and reporting services during the course of the work. The Engineer will recommend the qualified consultant to be employed by the General Contractor for the duration of the work.

B. Qualifications: You are to employ quality craftspersons to secure elements of historic significance; where available, employ craftspersons specializing in historic repair, rehabilitation and renovation, with a minimum of 5 years experience.

1. Definition of a craftsperson is an individual with specialized knowledge and experience capable of recognizing situations that require special attention and working with design professions to find solutions for such special problems.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Comply with Specifications and standards for each product involved.

B. Where Specifications and standards have not been provided, provide materials and fabrication consistent with historic significance of building, quality of Project and intended for commercial construction.

C. Provide new materials for historic rehabilitation and renovation unless otherwise indicated or unless specific items have been approved by the Engineer.

PART 3 - EXECUTION

3.1 INSPECTION

A. Inspect existing conditions of Project, including elements of historic significance subject to potential or further damage.

B. Report unsatisfactory conditions in writing; do not proceed with work until Engineer has provided further instructions.

3.2 PREPARATION

A. Provide adequate temporary support as necessary to assure structural value or integrity of elements of historic significance.

B. Provide devices and methods to protect existing and remodeled elements of historic significance from additional damage.

3.3 PERFORMANCE

A. Employ quality craftspersons to secure elements of historic significance; where available, employ craftspersons specializing in historic rehabilitation and renovation.

1. Definition of craftspersons is individuals with specialized knowledge and experience capable of recognizing situations which require special attention and working with design professions to find solutions for such special problems.

B. Secure work of historic significance in accordance with requirements of Contract Documents.

C. Finish surfaces as necessary to protect elements of historic significance.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 1 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Historic Treatment Procedures specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

DIVISION 2 – EXISTING CONDITIONS

SECTION 02 16 00

SHORING AND PROJECT SAFETY

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Shoring or bracing required for general safety, public and worker protection, and protection of adjacent property from the hazards of the existing damaged structure and previously installed containment structure.

B. General Contractor's responsibilities.

C. General Contractor's safety plan.

D. General Contractor's supervisor.

1.2 GENERAL CONTRACTOR'S RESPONSIBILITIES FOR SAFETY

A. The General Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons (including employees) and property during performance of the work including operation of equipment. This requirement shall apply continuously and not be limited to normal working hours.

B. Safety provisions shall conform to U.S. Department of Labor (OSHA), the California Occupational Safety and Health Act, and all other applicable Federal, State, county, and local laws, ordinances, codes, the requirements set forth below, and any regulations that may be detailed in other parts of these Specifications.

C. Where any cited requirements are in conflict, the more stringent requirement shall be followed.

D. The services of the City, the Engineer or the design consultants, or any other Public Agency Representative in conducting construction review of the General Contractor’s performance is not intended to include review of the adequacy of the General Contractor’s work methods, equipment, bracing or scaffolding or safety measures, in, or near the construction site, and shall not be construed as supervision of the actual construction nor make the City, City’s Engineer or design consultants, or any Public Agency Representative responsible for providing a safe place for the performance of the work by the General Contractor, Subcontractors or suppliers; or for access, visits, use work, travel or occupancy by any person.

E. The City's Engineer or any design consultant's review of the General Contractor's performance is not intended to include a review or approval of the adequacy of the General Contractor's safety supervisor, the safety program or any safety measures taken in, on or near the construction site.

F. The Engineer will review the safety related submittals of the General Contractor's to verify the general scope of the work, to determine that appropriate professional services are used and to determine the construction techniques proposed for use. This review shall not in any way be construed to relieve the General Contractor from sole responsibility for the design and safety of such shoring.

G. The General Contractor shall carefully instruct all personnel working in potentially hazardous work areas as to potential dangers and shall provide such necessary safety equipment and instruction as is necessary to prevent injury to personnel and damage to property. Special care shall be exercised relative to the current condition of the "damaged stone tower" and previously installed containment structure.

H. All work and materials shall be in strict accordance with all applicable State, Federal and local laws, rules, regulations and codes.

I. Nothing in the Contract is to be construed to permit work not conforming to governing law. When Contract Documents differ from governing law, the General Contractor shall furnish and install the higher standards called for without extra charge. All equipment furnished shall be grounded and provided with guards and protection as required by safety codes. Where vapor-tight or explosion-proof electrical installation is required by law, this shall be provided.

J. Shoring and Trench Safety Plan - Attention is directed to Section 832 of the Civil Code of the State of California relating to lateral and subjacent support, and the Design-Builder shall comply with this law. The submittal of this Plan to the City does not constitute the City approval of such Plan or any City liability thereof.

K. All operators of equipment shall have the proper certification, training and license classification required to operate equipment, keep records on site for the Engineer to review.

1.3 SAFETY ORDERS

A. The General Contractor shall have at the work site, copies or suitable extracts of the Construction Safety Orders of Cal-OSHA.

B. All work shall comply with the provisions of these and all other applicable laws, ordinances and regulations.

1.4 GENERAL CONTRACTOR'S SUPERVISOR

A. The General Contractor shall appoint a qualified supervisory employee who shall be on-site full time during the work and shall be responsible for the work and safety of all persons.

B. This supervisor shall have a minimum of three (3) years' experience in the directing of such excavation and shoring work. A resume of this experience shall be provided at the Pre-construction Meeting.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 2 bid item, provide cost breakout of equipment costs including crane and man lift(s), shoring, safety and equipment operations related work includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Shoring and Project Safety specifications, as directed by the Engineer and no additional compensation will be allowed therefor.

END OF SECTION

DIVISION 2 – EXISTING CONDITIONS

SECTION 02 41 19

SELECTIVE STRUCTURE DEMOLITION

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Removing debris or damaged materials that may impede the work.
2. Protecting items designated to remain or be saved.
3. Retain debris and damaged materials collected on site.
4. Removal and disposal of containment structure.

1.2 SUBMITTALS

A. Section 5-3.03 Submittals.

B. Plan to retain debris and damaged materials on site that are to be repaired.

C. Plan to identify stones removed as part of any deconstruction activity in accordance with Historic Treatment Procedures, Section 01 35 91.

1.3 QUALITY ASSURANCE

A. Conform to applicable code for demolition or collection of debris and damaged materials including dust control.

B. Conform to applicable code for procedures when hazardous or contaminated materials are discovered.

C. Obtain required permits from authorities having jurisdiction.

D. Maintain one copy of each document on site.

1.4 SCHEDULING

A. Section 5-3.03 Submittals.

B. Schedule Work to coincide with new construction.

C. Cooperate with “the Engineer” in scheduling noisy operations and waste removal that may impact City’s operation in adjoining spaces.

D. Coordinate utility and building service interruptions with “the Engineer” and utility providers.

1. Schedule tie-ins to existing systems to minimize disruption.
2. Coordinate Work to ensure fire sprinklers, fire alarms, smoke detectors, emergency lighting, exit signs and other life safety systems remain in full operation in occupied areas.

1.5 PROJECT CONDITIONS

A. Conduct the work to minimize interference with adjacent and occupied building areas.
B. Building will not be occupied by tenant during construction and tenant’s contents will be removed prior to starting the work.
C. Cease operations immediately if structure appears to be in danger and notify “the Engineer”. Do not resume operations until directed.
D. Protect and stabilize damaged historic stone masonry building.
E. A steel containment structure was installed to contain damaged stone tower. Steel containment structure to be removed when safe, upper tower deconstructed.
F. Lead paint has been identified review report provided by “the Engineer”.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.1 PREPARATION

A. Erect, and maintain temporary barriers and security devices at locations indicated, including warning signs and lights, and similar measures, for protection of the public, City, and existing improvements indicated to remain.

B. Prevent movement of structure; provide temporary bracing and shoring required to ensure safety of existing structure.

C. Provide appropriate temporary signage including signage for exit or building egress.

D. Do not close or obstruct building egress path.

E. Do not disable or disrupt building fire or life safety systems without 3 days prior written notice to the Engineer.

3.2 SALVAGE REQUIREMENTS

A. Remove and protect salvage items from demolition operations.

B. Carefully remove building debris and elements to be salvaged.

1. Remove, document and store salvaged stones to be used during reconstruction on site coordinate with the Engineer.

3.3 DEMOLITION

A. Conduct demolition to minimize interference with adjacent and occupied building areas.

B. Maintain protected egress from and access to adjacent existing buildings at all times.

C. Do not close or obstruct roadways without permits.

D. Cease operations immediately when structure appears to be in danger and notify “the Engineer”.

E. Remove debris and damaged materials in an approved, orderly and careful manner. Protect existing improvements, historic elements and supporting structural members.

F. Remove materials as Work progresses. Upon completion of Work, leave areas in clean condition.

G. Remove temporary work not part of the shoring, bracing and containment.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 2 bid item, provide cost breakout of hazardous materials related work, includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Selective Structure Demolition specifications as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

DIVISION 3 – CONCRETE

SECTION 03 10 00

CONCRETE FORMING AND ACCESSORIES

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: All labor, materials and equipment and all operations required to complete all formwork as indicated on the drawings; to produce shapes and configurations as shown, as required; and as specified herein, including:
   1. Forms, shores, bracing, removal and other operations as necessary for all cast-in-place concrete.

B. Related Sections:
   1. Pertinent Sections of Division 03 specifying concrete construction.

1.2 REFERENCES

A. California Code of Regulations, Title 24, latest adopted edition (herein noted as CBC): Chapter 19 Concrete.

B. ACI SP-66 “ACI Detailing Manual”.

C. ACI 301 “Specifications for Structural Concrete”.

D. Concrete Reinforcing Steel Institute (CRSI) “Manual of Standard Practice”.

1.3 DESIGN REQUIREMENTS

A. Design, engineer, and construct formwork, shoring and bracing to conform to design and code requirements, resist imposed loads; resultant concrete to conform to required shape, line and dimension.

1.4 QUALITY ASSURANCE

A. General: All form materials shall be new at start of work. Produce high quality concrete construction. Minimize defects due to joints, deflection of forms, roughness of forms, nonconforming materials, concrete or workmanship.

PART 2 PRODUCTS

2.1 MATERIALS

A. Earth Forms: Allowed, subject to soil standing in excavations without ravel or caving.

B. Nails, Spikes, Lag Bolts, Through Bolts, Anchorages: Sized as required, of sufficient strength and character to maintain formwork in place while placing concrete.

PART 3 EXECUTION

3.1 EXAMINATION

A. Inspect the substrate and the conditions under which concrete formwork is to be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected. Commencement of work indicates acceptance of substrates and conditions.

B. Verify lines, levels and centers before proceeding with formwork. Ensure that dimensions agree with drawings.

3.2 EARTH FORMS

A. If natural soil or compacted fill can be accurately cut and maintained, foundations and grade beams may be poured against earth without forming when requested by Contractor and approved by Architect. Provide positive protection of trench top corners.

B. Maintain earth forms free of water and foreign materials.

3.3 ERECTION – FORMWORK

A. General: Construct formwork in accordance with calculations, and recommendations of Section 401 of ACI 347. Construct forms to the sizes, shapes, lines and dimensions shown, and as required to obtain accurate alignment, location, grades, level and plumb work in finished structure.
   1. Schedule the work and notify other trades in ample time so that provisions for their work in the formwork can be made without delaying progress of the project. Install all sleeves, pipes, etc. for building services systems, or other work. Secure information about and provide for all openings, offsets, recessed nailing blocks, channel chases, anchors, ties, inserts, etc. in the formwork before concrete placement.

B. Provide all openings, offsets, inserts, anchorages, blocking, and other features of the work as shown or required. See INSERTS, EMBEDDED PARTS, AND OPENINGS for detailed requirements.

C. Align joints and make watertight. Keep form joints to a minimum.

3.4 INSERTS, EMBEDDED PARTS, AND OPENINGS

A. Provide formed openings where required for items to be embedded in passing through concrete work.

1. Provide openings in concrete formwork to accommodate work of other sections including those under separate contracts (if any). Size and location of openings, recesses and chases shall be in accordance with the section requiring such items. Accurately place and securely support items to be built into forms.

B. Construction Joints: Construct and locate generally as indicated on Drawings and only at locations approved by Structural Engineer, so as not to impair the strength of the structure. Form keys in all cold joints shown or required.

C. Locate and set in place items that will be cast directly into concrete.

D. Rough Hardware and Miscellaneous Metal: Set inserts, sleeves, bolts, anchors, angles, and other items to be embedded in concrete. Set embedded bolts and sleeves for equipment to template and approved shop drawings prepared by trades supplying equipment.

E. Coordinate with work of other sections in forming and placing openings, slots, reglets, recesses, sleeves, bolts, anchors, other inserts, and components of other work.

F. Piping: Do not embed piping in structural concrete unless locations specifically approved by Structural Engineer.

G. Conduit: Place conduit below slabs-on-grade and only as specifically detailed on structural drawings. Minimum clear distance between conduits shall be 3 diameters. Location shall be subject to Engineer's written approval and shall not impair the strength of the structure.

3.5 FOOTINGS

A. Verify elevations and provide final excavation required for footings prior to placing of concrete.

3.6 FORMWORK TOLERANCES

A. Construct formwork to maintain tolerances required by ACI 301.

3.7 FIELD QUALITY CONTROL

A. Inspect erected formwork, shoring, and bracing to ensure that work is in accordance with formwork design, and to verify that supports, fastenings, wedges, ties, and items are secure.

3.8 CLEANING

A. Remove excess material and debris associated with this work from the job site.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 3 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Concrete Forming and Accessories specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 03 20 00

CONCRETE REINFORCING

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Reinforcing steel work for all concrete work as indicated on the drawings and specified herein.
2. Coordinate this work with other work affected by these operations, such as forms, electrical work, mechanical work, structural steel, masonry and concrete.

B. Related Sections:
1. Pertinent Sections of Sections 1 through 14 and Division 01 specifying Quality Control and Testing Laboratory services.
2. Pertinent Sections of Divisions 03 specifying concrete construction.
3. Pertinent Sections of other Divisions specifying work to be embedded in concrete or work penetrating concrete work.

1.2 REFERENCE STANDARDS

A. California Code of Regulations, Title 24, latest adopted addition (herein noted as CBC) Chapter 19 Concrete.

B. American Concrete Institute (ACI) 301 “Specifications for Structural Concrete for Buildings”.

C. ACI 318 “Building Code Requirements for Reinforced Concrete and Commentary”.

D. ACI SP-66 “ACI Detailing Manual”.

E. ASTM A615 “Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement”.

F. ASTM A706 “Standard Specification for Deformed and Plain Low-Alloy Steel Bars for Concrete Reinforcement”.

G. Concrete Reinforcing Steel Institute (CRSI) - “Manual of Standard Practice”.

1.3 SUBMITTALS

A. Submit in accordance with pertinent sections of Sections 1 through 14 and Division 01 specifying submittal procedures. Submit for review prior to fabrication.

B. Limitation of Review: Structural Engineer's review will be for general conformance with design intent as indicated in the Contract Documents and does not relieve Contractor of full responsibility for conformance with the Contract Documents. The General Contractor shall review and approve shop drawings prior to submittal to the Architect/Engineer.

C. Shop Drawings are not required.

D. Product Data: Submit manufacturer's product data, specifications, location and installation instructions for proprietary materials and reinforcement accessories. Provide samples of these items upon request.

E. Certificates: Submit all certifications of physical and chemical properties of steel for each heat number as manufactured, including location of material in structure as specified below in Article titled QUALITY ASSURANCE. All materials supplied shall be tagged with heat numbers matching submitted Mill Test Report analyses.

F. Samples: Provide to the Owner's Testing laboratory as specified in Article SOURCE QUALITY CONTROL.

1.4 QUALITY ASSURANCE

A. Perform work of this Section in accordance with CRSI DA4, CRSI P1, ACI 301, and ACI 318.

B. Requirements of Regulatory Agencies, refer to pertinent Sections of Sections 1 through 14 and Division 01 and CBC.

C. Certification and Identification of Materials and Uses: Provide Owner's Testing Agency with access to fabrication plant to facilitate inspection of reinforcement. Provide notification of commencement and duration of shop fabrication in sufficient time to allow inspection and all material identification/test information listed below.
   1. Provide manufacturer's Mill Test Reports for all materials. Include chemical and physical properties of the material for each heat number manufactured. Tag all fabricated materials with heat number.
   2. Provide letter certifying all materials supplied are from heat numbers covered by supplied mill certificates. Include in letter the physical location of each grade of reinforcing and/or heat number in the project (i.e. foundations, walls, etc.).
   3. Unidentified Material Tests: Where identification of materials by heat number to mill tests cannot be made, Owner's Testing Agency shall test unidentified materials as described below.

D. Testing and Inspection: Tests and Inspections required by Independent Testing Agency are specified below in Articles SOURCE QUALITY CONTROL and FIELD QUALITY CONTROL. Duties and limitations of Independent Testing Agency, test costs and test reports in conformance with pertinent Sections of Sections 1 through 14 and Division 01.

1.5 DELIVERY, STORAGE AND HANDLING

A. Comply with pertinent requirements of Sections 1 through 14 and Division 01.

B. Deliver reinforcement to project site in bundles marked with durable tags indicating heat number, mill, bar size and length, proposed location in the structure and other information corresponding with markings shown on placement diagrams.

C. Handle and store materials above ground to prevent damage, contamination or accumulation of dirt or rust.

PART 2 PRODUCTS

2.1 MATERIALS

A. Reinforcing Steel: Deformed billet steel bars, ASTM A706 Grade 60 or ASTM A615 Grade 60.
   1. Exception: Bars #3 and smaller shall be Grade 40 minimum, unless otherwise noted on the drawings.
   2. All reinforcement to be unfinished.

B. Tie Wire: No. 16 AWG or heavier, black annealed.

C. Concrete Blocks: On-grade conditions only, as required to support reinforcing bars in position.

2.2 FABRICATION

A. Fabricate concrete reinforcing in accordance with CRSI (DA4), unless specifically shown otherwise. Details not specifically shown or indicated shall conform to ACI 315 and specified codes and standards.
   1. Accurately shop-fabricate to shapes, bends, sizes, gauges and lengths indicated or otherwise required.
   2. Bend bars once only. Discard bars improperly bent due to fabricating or other errors and provide new material; do not re-bend or straighten unless specifically indicated. Rebending of reinforcement in the field is not allowed.
   3. Do not bend reinforcement in a manner that will injure or weaken the material or the embedding concrete.
   4. Do not heat reinforcement for bending. Heat-bent materials will be rejected.

B. Unacceptable materials: Reinforcement with any of the following defects will not be permitted in the work.
   1. Bar lengths, depths and bends exceeding specified fabrication tolerances.
   2. Bends or kinks not indicated on Drawings or final shop drawings.
   3. Bars with reduced cross-section due to rusting or other cause.

C. Tag reinforcement with durable identification to facilitate sorting and placing.

2.3 SOURCE QUALITY CONTROL

A. The Testing Agency, as specified in the Article QUALITY ASSURANCE, will perform the following:
   1. Material Testing:
      a. Identified Steel: When samples are taken from bundled steel identified by heat number, matched with accompanying mill analyses as delivered from the mill, supplemental testing of reinforcing steel is not required.
      b. Unidentified Steel: When identification of materials by heat number matched to accompanying mill analyses cannot be made, perform one tensile test and one bend test per each two and one-half tons or fraction thereof for each required size of reinforcing steel. Tests of unidentified steel shall be performed by the Owner's Testing Agency and costs for these tests shall be paid by the Contractor by deductive change order.

PART 3 EXECUTION

3.1 EXAMINATION

A. Inspect the conditions under which concrete reinforcement is to be placed. Do not proceed with the work until unsatisfactory conditions have been corrected.

B. Coordinate with work of other sections to avoid conflicts or interference. Bring conflicts between reinforcement and other elements to Architect's attention. Resolve conflicts before concrete is placed.

C. Notify Architect, Structural Engineer, and Authority Having Jurisdiction for review of steel placement observation not less than 48 hours before placing concrete.

3.2 PLACEMENT

A. General: Comply with the specified codes and standards, and Concrete Reinforcing Steel Institute recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.

B. Clean bars free of substances which are detrimental to bonding. Maintain reinforcement clean until embedded in concrete.

C. Place reinforcement to obtain the minimum coverages for concrete protection. Do not deviate from required position. Maintain required distance, spacing and clearance between bars, forms, and ground.

D. Location and Support: Provide metal chairs, runners, bolsters, spacers and hangers, as required.

E. Provide additional steel reinforcement as necessary or as directed, to act as spreaders or separators to maintain proper positioning.

F. Tying and Attachment: Securely tie at all intersections and supports with wire. Prevent dislocation or movement during placement of concrete. Direct twisted ends of wire ties away from exposed concrete surfaces.

G. Separate reinforcing from pipes or conduits with approved non-metallic separators. Do not use wood or steel form stakes or reinforcement used as stakes as support for reinforcement.

H. Accommodate placement of formed openings required by other sections.

I. Obstructions:
   1. Where obstructions, block-outs, or penetrations (conduits, raceways, ductwork) prevent continuous placement of reinforcement as indicated, provide additional reinforcing as detailed and as directed by the Structural Engineer to supplement the indicated reinforcement around the obstruction.
   2. Place additional trim bars, ties, stirrups, or other elements as detailed and as directed at all opening, sleeves, pipes or other penetrations through structural elements.

3.3 REINFORCING SPACING AND COVERAGE

A. Spacing: Do not space bars closer than four (4) diameters of the largest of two adjacent bars, except at bar laps, which shall be placed such that a minimum of 2 bar diameters is clear between bars.

B. Where reinforcing in members is placed in two layers, the distance between layers shall not be less than four bar diameters of the largest bar and the bars in the upper layers shall be placed directly above those in the bottom layer, unless otherwise detailed or dimensioned.

C. Coverage of bars (including stirrups and columns ties) shall be as follows, unless otherwise shown:
   1. Footings and Mat Foundation: 3 inches to any soil face, 2 inches to top.

3.4 DOWELS, SPLICES, OFFSETS AND BENDS

A. Provide standard reinforcement splices at splices, corners, and intersections by lapping ends, placing bars in contact, and tightly tying with wire at each end. Comply with details shown on structural drawings and requirements of ACI 318.

B. Provide minimum 1-1/2 inch clearance between sets of splices. Stagger splices in horizontal bars so that adjacent splices will be 4 feet apart.

C. Splices of reinforcement shall not be made at points of maximum stress. Provide splice lengths as noted on the structural drawings, with sufficient lap to transfer the stress between bars by bond and shear.

D. Spacing:
   1. Space bars minimum distance specified and all lapped bars 2 bar diameters (minimum) clear of the next bar.
   2. Stagger splices of adjacent bars where possible and where required to maintain bar clearance.
   3. Request Architect/Engineer review prior to placement for all splices not shown on the drawings.

3.5 WELDING

A. No reinforcing shall be welded unless specifically indicated or without prior approval of the Structural Engineer and the Authority Having Jurisdiction.

3.6 MISPLACED REINFORCEMENT

A. Notify Architect/Engineer immediately if reinforcing bars are known to be misplaced after concrete has been placed.

B. Perform no correction or cutting without specific direction. Do not bend or kink misplaced bars.

C. Correct misplaced reinforcing only as directed in writing by the Architect/Engineer. Bear all costs of redesign, new, or additional reinforcing required because of misplaced bars at Contractor's expense.

3.7 FIELD QUALITY CONTROL

A. The Testing Agency as specified in the Article QUALITY ASSURANCE, will inspect the work for conformance to contract documents before concrete placement.
   1. Inspection: Provide inspection and verification of installed reinforcement. Confirm that the surface of the rebar is free of form release oil or other coatings.
   2. Exception: Shallow foundations & non-structural slabs-on-grade supporting buildings of no greater than three stories and either of concrete design strength 2500psi (or greater) or supporting light-frame construction do not require special inspection. Non-structural patios, driveways, and sidewalks do not require special inspection.

3.8 CLEANING

A. Remove excess material and debris associated with this work from the job site.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 3 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Concrete Reinforcing specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Provide all labor, materials, equipment and services to complete all concrete work required, including, but not limited to, the following:
   1. Foundations.
   2. Installation of all bolts, inserts, sleeves, connections, etc. in the concrete.
   3. Joint devices associated with concrete work.
   4. Concrete curing.
   5. Coordination with other sections:
      a. Make all preparations and do all work necessary to receive or adjoin other work. Install all bolts and anchors, including those furnished by other sections, into formwork and provide all required blocking.
      b. Install all accessories embedded in the concrete and provide all holes, blockouts and similar provisions necessary for the work of other sections. Provide all patching or cutting made necessary by failure or delay in complying with this requirement at the Contractor's expense.
      c. Coordinate with other sections for the accurate location of embedded accessories.

B. Related Sections:
   1. Pertinent Sections of Sections 1 through 14 and Division 01 specifying Quality Control and Testing Laboratory services.
   2. Pertinent Sections of Division 03 specifying concrete construction.
   3. Pertinent Sections of other Divisions specifying work to be embedded in concrete or work penetrating concrete.

1.2 REFERENCES

A. California Code of Regulations, Title 24, latest adopted addition (herein noted as CBC) Chapter 19 Concrete.

B. American Concrete Institute (ACI) 211.1 “Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete”.

C. ACI 301 “Specifications for Structural Concrete”.

D. ACI 304R “Guide for Measuring, Mixing, Transporting, and Placing Concrete”.

E. ACI 305R “Hot Weather Concreting”.

F. ACI 306R “Cold Weather Concreting”.

G. ACI 308 “Standard Practice for Curing Concrete”.

H. ACI 318 “Building Code Requirements for Reinforced Concrete and Commentary”.

1.3 SUBMITTALS

A. Submit in accordance with pertinent sections of Sections 1 through 14 and Division 01 specifying submittal procedures. The General Contractor shall review and approve shop drawings prior to submittal to the Architect/Engineer. Submittals that do not meet these requirements will be returned for correction without review. Submit for review prior to fabrication.

B. Limitation of Review: Structural Engineer's review will be for general conformance with design intent as indicated in the Contract Documents and does not relieve Contractor of full responsibility for conformance with the Contract Documents.

C. Product Data: Submit manufacturers' data on manufactured products and other concrete related materials such as bond breakers, cure/sealer, admixtures, etc. Demonstrate compliance with specified characteristics. Provide samples of items upon request.

D. Mix Designs: Submit Mix Designs for each structural concrete type required for work per requirements of articles CONCRETE MIXES and QUALITY ASSURANCE. Resubmit revised designs for review if original designs are adjusted or changed for any reason. Non-Structural mixes need not be submitted for review by Structural Engineer.

E. Manufacturer's Installation Instructions: Indicate installation procedures and interface required with adjacent construction for concrete accessories.

F. Batch Plant Certificates: Include with delivery of each load of concrete. Provide Certificates to the Testing Agency and the Architect/Engineer as separate submittals. Concrete delivered to the site without such certificate shall be rejected and returned to the plant. Each certificate shall include all information specified in Article SOURCE QUALITY CONTROL below.

G. Project Record Documents: Accurately record actual locations of embedded utilities and components that will be concealed from view upon completion of concrete work.

1.4 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

B. Concrete construction verification and inspection to conform to CBC 1705.3.

C. Common Sourcing: Provide each of the following materials from a single source for entire project.
   1. Cement.
   2. Fly ash.
   3. Aggregate.

D. Follow recommendations of ACI 305R when concreting during hot weather. Follow recommendations of ACI 306R when concreting during cold weather.

E. Services by the Independent Testing Agency (includes "Special" Inspections) as specified in this Section and as follows:
   1. Perform tests and inspections specified below in articles SOURCE QUALITY CONTROL and FIELD QUALITY CONTROL. Duties and limitations of Independent Testing Agency, test costs and reports to be in conformance with pertinent Sections of Sections 1 through 14 and Division 01.

F. Contractor shall bear the entire cost of remediation, removal, and/or replacement of concrete determined defective or non-conforming, including Architect/Engineer fees for redesign.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Materials specified by brand name shall be delivered in unbroken packages bearing manufacturer's label and shall be brand specified or an approved equal.

B. Delivery, Handling and Storage of other materials shall conform to the applicable sections of the current editions of the various reference standards listed in this Section.

C. Protect materials from weather or other damage. Sort to prevent inclusion of foreign materials.

D. Specific Requirements:
   1. Cement: Protect against dampness, contamination, and warehouse set. Store in weather tight enclosures.
   2. Aggregates: Prevent excessive segregation, or contamination with other materials or other sizes of aggregates. Use only one supply source for each aggregate stock pile.
   3. Admixtures:
      a. Store to prevent contamination, evaporation, or damage.
      b. Protect liquid admixtures from freezing and extreme temperature ranges.
      c. Agitate emulsions prior to use.

1.6 ENVIRONMENTAL REQUIREMENTS

A. Cold Weather (Freezing or near-freezing temperatures) per ACI 306R:

1. Heat concrete materials before mixing, as necessary to deposit concrete at a temperature of at least 50°F but not more than 90°F.
2. Do not place concrete during freezing, near-freezing weather, snow, rain or sleet unless protection from moisture and/or cold is provided.
3. Protect from freezing and maintain at a temperature of at least 50°F for not less than seven days after placing. Take special precautions to protect transit-mixed concrete.
4. No salts, chemical protection or admixture are permitted without written approval of Architect/Engineer.
5. Contractor shall maintain an air temperature log for the first 7 days after placement with entry intervals not to exceed 8 hours.

B. Hot Weather per ACI 305R:
1. Cool concrete materials before mixing, or add ice in lieu of mix water as necessary to deposit concrete at a temperature below 85°F.
2. Do not place concrete in hot/windy weather without Architect/ Engineer review of procedures.
3. Provide sunshades and/or wind breakers to protect flat work during finishing and immediate curing operations. Do not place flatwork concrete at air temperature exceeding 90°F.
4. Provide modified mix designs, adding retarders to improve initial set times and applying evaporation reducers during hot/windy weather for review by Independent Testing Agency prior to use.

1.7 SCHEDULING AND SEQUENCING

A. Organize the work and employ shop and field crew(s) of sufficient size to minimize inspections by the Testing Agency.

B. Provide schedule and sequence information to Testing Agency in writing upon request. Update information as work progresses.

PART 2 PRODUCTS

2.1 FORMWORK

A. Comply with requirements of Section 03 10 00.

2.2 REINFORCEMENT

A. Comply with requirements of Section 03 20 00.

2.3 MATERIALS

A. General Requirements: All materials shall be new and best of their class or kind. All materials found defective, unsuitable, or not as specified, will be condemned and promptly removed from the premises.

B. Cementitious Materials:

1. Portland Cement: ASTM C150, Type II, low alkali conforming to CBC 1903.1.
2. Fly Ash (Pozzolan): ASTM C618, Class F.

C. Concrete Aggregates:
1. Coarse and Fine Aggregates: ASTM C33; Stone aggregate and sand. Specific source aggregate and/or sand or shrinkage characteristics as required for class of concrete specified.
2. Source shall remain constant throughout the duration of the job. The exact portions of the fine aggregates and coarse aggregates to be used in the mix shall be determined by the mix design.

D. Water: Potable, clean, from domestic source.

E. Admixtures: All admixtures shall be used in strict accordance with the manufacturer's recommendations. Admixtures containing calcium chlorides or other accelerators shall not be used without the approval of the Architect/Engineer and the Owner's Testing Laboratory.
1. Mid Range Water Reducing Admixtures: ASTM C494 Type A, "MasterPolyHeed" (formerly “PolyHeed”) series by BASF, "WRDA" series by W.R. Grace, or equal.
2. High Range Water-Reducing Admixtures: ASTM C494 Type F, "MasterRheoBuild 1000" (formerly “RheoBuild 1000”) or “MasterGlenium” (formerly “Glenium”) series by BASF or equal.
3. Water Reducing Admixture and Retarder: ASTM C494 Type B or D, "MasterPozzolith" (formerly “Pozzolith”) series or “MasterSet DELVO” (formerly “DELVO”) series by BASF, "Plastiflow-R" by Nox-crete, or equal.
4. Air Entraining Admixtures: ASTM C260, product suit condition by BASF or equal.
5. Viscocity Modifiers: ASTM C494 Type S.

F. Slurry: Same proportion of cement to fine aggregates used in the regular concrete mix (i.e. only coarse aggregate omitted); well mixed with water to produce a thick consistency.

G. High Strength Grout: See section 05 1200 for requirements.

H. Dry Pack: Dry pack (used only for cosmetic concrete repairs) shall consist of:
1. One part cement to 2-1/2 parts fine aggregate (screen out all materials retained on No.4 sieve), mixed with a minimum amount of water, added in small amounts.
2. Mix to consistency such that a ball of the mixture compressed in the hand will retain its shape, showing finger marks, but without showing any surface water.

2.4 ACCESSORIES

A. Bonding Agent: ASTM C881, Type II Grade 2 Class B or C. Do not allow epoxy to set before placing fresh concrete.
1. “MasterEmaco ADH 326” (formerly “Concresive Liquid LPL”) by BASF;
2. “Rezi-Weld 1000” by W.R. Meadows.

B. Chemical Hardener: Fluorosilicate solution designed for densification of cured concrete slabs. “MasterKure HD 310 WB” (formerly “Lapidolith”) by BASF, "LIQUI-HARD" W.R. Meadows Co, or equal.

C. Moisture-Retaining Cover: ASTM C171, type 1, one of the following;
   1. Regular Curing Paper, Type I, reinforced waterproof: Fortifiber Corporation "Orange Label Sisalkraft", "Pabcotite" paper, or equal.
   2. Polyethylene Film: ASTM D 2103, 4 mil thick, clear or white color.
   3. White-burlap-polyethylene sheet, weighing not less than 10 oz/per linear yd.

D. Liquid Curing Compound: ASTM C 309, Type 1, Class B, clear or translucent, 25% minimum solids, water base acrylic cure/sealer which will not discolor concrete and compatible with bonding of finishes specified in related sections. W.R. Meadows Co. “Vocomp 25” or equal. Maximum Volatile Organic Compound (VOC) content is 350 grams per liter.

E. Evaporation Reducer: "MasterKure ER 50” (formerly Confilm), by BASF.

2.5 JOINT DEVICES AND MATERIALS

A. Expansion Joint Filler: ASTM D1751, Nonextruding, resilient asphalt impregnated fiberboard or felt, 3/8 inch thick and 4 inches deep; tongue and groove profile.
   1. Products: "Servicised Products", W.R. Meadows, Inc., "National Expansion Joint Company", "Celotex Corporation", or equal.

B. Joint Filler: ASTM D944, Compressible asphalt mastic with felt facers, 1/4 inch thick and 4 inches deep.

C. Sealant and Primer: As specified in Section 07 9105.

D. Slab Joint Sealant: Compatible with floor finishes specified in related sections.

2.6 CONCRETE MIXES

A. General requirements for mix design and submittal of structural class concrete:
   1. Provide Contractor submittals to Architect/Engineer not less than 15 days before placing concrete.
   2. Contractor shall review mix designs and proposed placing requirements prior to submittal for compatibility to insure that the concrete as designed can be placed in accordance with the drawings and specifications.
   3. Changes or revisions require re-submittal: All variations to approved mix designs, including changing type and/or quantity of admixtures shall be resubmitted to the Architect/Engineer for review prior to use.
   4. Mix design(s) for all structural classes of concrete to be prepared by qualified person experienced in mix design. Allow for time necessary to do trial batch testing when required.

5. Preparer to provide backup data and certify in writing that mix design meets:
   a. Requirements of the specifications for concrete durability and quality;
   b. Requirements of the California Building Code and ACI 318, Sections 5.2 through 5.5 including break histories, trial batching test results, and/or a mix designed by a California Registered Civil Engineer per ACI 318 Section 5.4 and bearing the Engineer's seal & signature.
6. Clearly note on mix designs with specified maximum WCR if design permits addition of water on site, or clearly identify in the mix design that no water is to be added on site.
7. Deviations: Clearly indicate proposed deviations, and provide written explanation explaining how the deviating mix design(s) will provide equivalent or better concrete product(s) than those specified.
8. Include adjustments to reviewed mix designs to account for weather conditions and similar factors.

B. Proportioning - General: The following provisions apply to all mix designs:

1. Proportion concrete mixes to produce concrete of required average strength (as defined by CBC Section 1904). Select slump, aggregate sizes, shrinkage, and consistency that will allow thorough compaction without excessive puddling, spading, or vibration, and without permitting the materials to segregate, or allow free water to collect on the surface.
2. Select aggregate size and type to produce dense, uniform concrete with low to moderate shrinkage, free from rock pockets, honeycomb and other irregularities.
3. Mix designs may include water reducing and retarding admixtures to meet or exceed minimum set times (time required to place and finish) and to minimize Water Cement Ratios (WCR). Minimum and maximum criteria presented in this section are guidelines and do not represent a specific mix design.
4. Cement Content: Minimum cement content indicates minimum sacks of cementitious material. Increasing cement content to increase early strengths or to achieve specified WCR while maintaining water content is discouraged in order to minimize effects of shrinkage.
   a. Substitution of fly ash for Portland cement on an equivalent weight basis up to 25% replacement is permitted, except at high early strength concrete. Replacement in excess of 25% is not permitted unless part of a specified mix design that has been submitted for review.
   b. Such substitution requests may be denied by the Engineer.
5. Water Content: Mix designs with a specified maximum Water Cement Ratio (WCR) may be designed with a lower WCR than specified in order to allow addition of water at the site.
6. Concrete Strength: Establish required average strength for each type of concrete on the basis of field experience or trial mixtures, as specified in ACI 301 and this section.
   a. For trial mixtures method, employ independent testing agency acceptable to Architect/Engineer for preparing and reporting proposed mix designs.
7. Placement Options: Mix designs may, at the Contractor's option, be designed for either pump or conventional placement with aggregate size, slumps, etc. to be maintained as specified in this section.

C. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations and this section.

D. Mix Design Minimum Requirements:

Concrete Class	Coarse Aggregate Size (Inches) & Fine Aggregate[3]	Maximum WCR or Maximum Nominal Slump & Tolerance (Inches)[1,2]	Minimum 28-Day Design Strength	Minimum Cement Sacks/per yd[4]
NON-STRUCTURAL				
1) Lean Concrete (use only where specified)	---	---	---	3.0
2) Slab on Grade Exterior (Walks & Patios)	1" x #4	4" ± 1"	2,500	4.5
STRUCTURAL				
3) Foundation	1" x #4	WCR = .53	3,000	5.0

1. The tolerance is the maximum deviation allowable without rejection. The mix design shall be based on the nominal value specified and is without water reducing mixtures. Slump to be measured at the end of the hose.
2. The maximum water cement ratio (WCR) is limited at time of placement as noted. No water is to be added on site such that the specified WCR or maximum slump is exceeded without approval of the testing laboratory and the Architect/Engineer. Workability is to be achieved utilizing an acceptable mid range to high range water reducing admixture.
3. Gradation of aggregate is per CBC Section 1903 and ASTM C33.
4. Minimum cement content includes all cementitious materials.

2.7 MIXING CONCRETE

A. Batch final proportions in accordance with approved mix designs. All adjustments to approved proportions, for whatever reason, shall be reviewed by the Architect/Engineer prior to use.

B. Batch and mix concrete in accordance with ASTM C94, at an established plant. Site mixed concrete will be rejected.

C. Provide batch and transit equipment adequate for the work. Operate as necessary to provide concrete complying with specified requirements.

D. Place mixed concrete in forms within 1-1/2 hours from the time of introduction of cement and water into mixer or 300 revolutions of the drum whichever comes first. Use of, re-mixing, and/or tempering mixed concrete older than 1 hour will not be permitted.

E. Do not add water at the site to concrete mixes with a maximum specified WCR unless the water content at batch time provides for a WCR less than specified and this provision, including the quantity of water which may be

added at the site, is specifically noted on the mix design and certification by the mix preparer. See ASTM C94 for additional requirements.

2.8 SOURCE QUALITY CONTROL

A. Services by independent Testing Agency:
1. Batch Plant Certificates: Obtain the weighmaster's Batch Plant Certificate at arrival of truck at the site. If no batch plant certificate is provided, recommend to the General Contractor that the truckload of concrete be rejected. So note in daily log, along with the location of the load of concrete in the structure if the load is not rejected.
a. Laboratory's inspector shall obtain for each transit mixer Batch Plant Certificates to verify mix design quantities and condition upon delivery to the site.
b. Certificates to include: Date, time, ingredient quantities, water added at plant and on job, total mixer revolutions at time of placement, and time of departure.
c. Concrete with specified water cement ratio: Add no water on site unless mix design and batch records each show additional water may be added. See ASTM C94 for additional requirements.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

B. Verify work of other sections is complete and tested as required before proceeding.

3.2 PREPARATION

A. Observation, Inspection and Testing:
1. Architect/Engineer: Notify not less than 2 working days before each concrete placement, for observation and review of reinforcing, forms, and other work prior to placement of concrete.
2. Testing Agency: Notify not less than 24 hours before each placement for inspection and testing.

B. Placement Records: Contractor shall maintain records of time, temperature and date of concrete placement including mix design and location in the structure. Retain records until completion of the contract. Make available for review by Testing Agency and Architect/Engineer.

C. Coordinate placement of joint devices with erection of concrete formwork and placement of form accessories.

D. Verify location, position and inclusion of all embedded and concealed items.

E. Verify installation of vapor retarder under interior slabs on grade, as specified in related section, is complete.

F. Cleaning and Preparation:

1. Remove loose dirt, mud, standing water, and foreign matter from excavations and cavities.
2. Close cleanout and inspection ports securely.
3. Thoroughly clean reinforcement and other embedded items free from loose rust and foreign matter. Maintain reinforcing securely in place. Do not place concrete on hot reinforcing.
4. Dampen form materials and substrates on which concrete is to be placed at least 1 hour in advance of placing concrete; repeat wetting as necessary to keep surfaces damp. Do not saturate. Do not place concrete on saturated material.
   a. Thoroughly wet wood forms (except coated plywood), bottom and sides of trenches, adjacent concrete or masonry and reinforcement.
5. Prepare previously placed concrete by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.

G. Drill holes in existing concrete at locations where new concrete is doweled to existing work. Insert steel dowels and prepare connections as detailed.

H. Do not overcut at existing concrete work to remain. Contractor is responsible for repair/replacement of overcut concrete to the Owner’s satisfaction.

3.3 PIPES AND CONDUITS IN CONCRETE

A. Sleeving and Wrapping:
1. Foundations: Sleeve or wrap all individual pipe penetrations, minimum 1-1/2 inches clear to reinforcing all around.
   a. Sleeves: PVC. Provide 1 inch minimum clear all around O.D. pipe to I.D sleeve, UNO at ends, fill void space with mastic or plastic bituminous cement.
   b. Wrapped Vertical Pipes: Provide 1/8 inch nominal sheet foam with three wraps minimum, UNO.
   c. Wrapped Horizontal Pipes: Provide 1/8 inch nominal sheet foam with eight wraps minimum, UNO.
   d. Underground Fire Lines 4” and Larger: At sleeves provide 2 inch minimum clear all around O.D. pipe to I.D sleeve. At wrapped pipes, provide 1/8 inch nominal sheet foam with sixteen wraps minimum.

B. Space groups of pipes/conduits at least 3 sleeve diameters apart, do not interrupt specified concrete and reinforcement.
1. Provide block-outs as detailed when grouping of pipes/conduits in foundation or other structural member prevents spacing as described. Notify Architect/Engineer for review of any conditions not conforming to details.
2. Center pipe/conduit penetrations in the depth and/or thickness of foundations.
3. Maximum size of pipe/conduit penetrations shall not exceed the least dimension of concrete divided by 3.

3.4 CONCRETE PLACEMENT

A. Transporting:
   1. Provide clean, well-maintained equipment of sufficient quantity and capacity to execute the work and produce concrete of quality specified.
   2. Handle and transport concrete from mixer to final deposit location as rapidly as practicable. Prevent separation or loss of ingredients.

B. Placement - General: Placement, once started, shall be carried on as a continuous operation until section of approved size and shape is completed. Provide construction joints as detailed on the drawings. Engineer's written approval required for all deviations.
   1. Deposition:
      a. Deposit concrete to maintain an approximately horizontal plastic surface until the completion of the unit placement.
      b. Deposit as neatly as practicable in final position, minimize re-handling or flow.
      c. Do not drop concrete freely where reinforcing bars, embeds, or obstructions occur that may cause segregation. Provide spouts, elephant trunks, or other means to prevent segregation during placement.
   2. Progress Cleaning: Remove all concrete spilled on forms or reinforcing steel in portions of structure not immediately concreted. Remove completely before concrete sets.
   3. Interruptions: Shut down placement operations and dispose of all remaining mixed concrete and concrete in hoppers or mixers following all interruption in placement longer than 60 minutes.
      a. If such interruption occurs, provide new or relocate existing construction joints as directed by Engineer.
      b. Cut concrete back to the designated line, cleaning forms and reinforcing as herein specified.
      c. Prepare for resumption of placement as for new unit when reason for interruption is resolved.

C. Consolidation:
   1. Consolidate all concrete thoroughly during placement with high-speed mechanical vibrators and other suitable tools. Perform manual spading and tamping to work around reinforcement, embedded fixtures, and into corners of formwork as required to obtain thorough compaction.
      a. Provide vibrators with sufficient amplitude for adequate consolidation.
      b. Use mechanical vibrators at each point of concrete placement.
      c. Keep additional spare vibrators, in addition to those required for use, at the site for standby service in case of equipment failure.
   2. Consolidate each layer of concrete as placed.
      a. Insert vibrators vertically at points 18 to 30 inches apart; work into top area of previously placed layer to reconsolidate, slowly withdraw vibrator to surface.
      b. Avoid contact of vibrator heads with formwork surfaces.
      c. Systematically double back and reconsolidate wherever possible. Consolidate as required to provide concrete of maximum density with minimized honeycomb.

D. Unacceptable Materials:
   1. Do not place concrete that has started to set or stiffen. Dispose of these materials.
   2. Do not add water on site to concrete except as specified in the approved mix design, see PART 2 above.

E. Protection of installed work:

   1. Do not introduce any foreign material into any specified drainage, piping or duct systems.
   2. Contractor shall bear all costs of work required to repair or clean affected work as a result of failure to comply with this requirement.

3.5 CONCRETE JOINTS

A. Structural Joints (Construction/Cold Joints):
   1. Locate joints only where shown, or as approved.
   2. Review Required: Joints not indicated on the plans shall be located to meet the minimum requirements below, shall not impair the strength of the structure and shall be submitted to Architect/Engineer for review prior to placement of concrete.
      a. Indicate proposed location(s) of construction/cold/expansion joints on shop drawing submittals for review prior to placing concrete.
   3. Clean and roughen all surfaces of previously placed concrete at construction joints by washing and sandblasting to expose aggregate to 1/4 inch amplitude.

3.6 CONCRETE FINISHES

A. Flatwork Finishing:
   1. Perform with experienced operators.
   2. Finish surfaces monolithically. Establish uniform slopes or level grades as indicated. Maintain full design thickness.
   3. Flatwork Finish Types:
      a. Broom Texture Finish: Exterior surfaces as indicated or for which no other finish is indicated. Finish as for steel trowel finish, except immediately following first troweling, (depending on conditions of concrete and nature of finish required) provide uniform surfaces texture using a medium or coarse fiber broom.

B. Other Concrete: Provide as required to achieve appearance indicated on structural and architectural drawings and related sections.
   1. Repair surface defects, including tie holes, immediately after removing formwork.
   2. Intermediate joint and score marks and edges: Tool smooth and flush unless otherwise indicated or as directed by the Architect.
   3. Use steel tools of standard patterns and as required to achieve details shown or specified. All exposed corners not specified to be chamfered shall have radiused edges.

3.7 TOLERANCES

A. Minimum Flatwork Tolerances: Measure flatness of slabs with in 48 hours after slab installation in accordance with ACI 302.1R and ASTM E1155 and to achieve the following FF and FL tolerances:
   1. Exterior surfaces: 1/8 inch minimum per foot where sloped to drain. Level otherwise. FF20 and FL15.

3.8 CONCRETE CURING

A. Curing - General: Cure in accordance with ACI 308. Maintain concrete water content for proper hydration and minimize temperature variations. Begin curing immediately following finishing.

B. Protection During Curing: Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury. The General Contractor is responsible for the protection of the finished slab from damage.
   1. Avoid foot traffic on concrete for minimum of 24-hours after placement.
   2. Protect concrete from sun and rain.
   3. Maintain concrete temperature at or above 50 degrees F. during the first 7 days after placement. See Article ENVIRONMENTAL REQUIREMENTS.
   4. Do not subject concrete to design loads until concrete is completely cured, and until concrete has attained its full specified 28-day compressive strength or until 21 days after placement, whichever is longer.
   5. Protect concrete during and after curing from damage during subsequent building construction operations. See Article PROTECTION.

C. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
   1. Normal concrete: Not less than 7 days.
   2. High early strength concrete: Not less than 4 days.

D. Begin curing immediately following finishing.

E. Formed Surfaces: Cure by moist curing with forms in place for full curing period.

F. Surfaces Not in Contact with Forms:
   1. Start initial curing as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than 3 days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Begin final curing after initial curing but before surface is dry.
      a. Moisture-retaining cover: Seal in place with waterproof tape or adhesive.
      b. Curing compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

G. Flatwork on Grade: Cure by one of the following methods:
   1. Water Cure (Ponding): Maintain 100 percent coverage of water over floor slab areas, continuously for minimum 7 calendar days.
   2. Spraying: Spray water over floor slab areas and maintain wet for 7 days.
   3. Moisture-Retaining Film or Paper: Lap strips not less than 6 inches and seal with waterproof tape or adhesive; extend beyond slab or paving perimeters minimum 6 inches and secure at edges; maintain in place for minimum 7 days.
   4. Absorptive Moisture-Retaining Covering: Saturate burlap-polyethylene and place burlap-side down over floor slab areas, lapping ends and sides and extend beyond slab or paving perimeters 6 inches minimum; maintain in place for minimum 7 days.
   5. Liquid Membrane-forming Curing Compound: Provide only when subsequent concrete treatments or finish flooring specified in related sections will not be affected by cure/sealer. Apply curing compound in accordance with manufacturer's instructions at the maximum recommended application rate in two coats, with second coat applied at right angles to first.

H. Foundations: Apply curing compound immediately after floating.

3.9 CONCRETE HARDENER

A. Apply hardener to all floor slabs not receiving other finishes after 30 days minimum curing. Clean slabs of non-compatible cure/sealers or other foreign material(s) and apply in strict accordance with the manufacturer's directions.

3.10 GROUTING AND DRY PACK

A. Set steel plates on concrete or masonry with high strength grout bed, completely fill all voids; thoroughly compact in place. See Section 05 1200.

B. Bolts or inserts dry packed or grouted in place shall cure for minimum 7 days before tensioning.

3.11 FIELD QUALITY CONTROL

A. Testing and Inspections by Independent Testing Agency: Provided verification and inspection of concrete per CBC Table 1705.3. Provide written reports for to Engineer, Architect, Contractor and Building Official for the following tests and inspections:

B. Testing & Inspection: Provide periodic inspection of reinforcing steel. Provide continuous inspection during placement of structural class concrete, 3000 psi or more. Non-structural class concrete with a design strength of 2500 psi or less to have periodic inspection on a 150 cubic yard basis as required to assure conformance.
   1. Provide periodic inspection of bolts in concrete prior to and during placement where so noted on the construction documents.

2. Structural Concrete Cylinder Tests: Perform in accordance with ASTM C31.
   a. Take four standard 6 inch x 12 inch (or five 4 inch x 8 inch) cylinder specimens on the site, of each class of concrete as specified in PART 2, not less than once a day or for each 150 cubic yards or 5000 sq ft or fraction thereof placed each day.
   b. Record the location of each concrete batch in the building in a log and also note on each specimen.
   c. Perform standard compression test of cylinders in accordance with ASTM C39, one at 7 days and two (three for 4x8 cylinders) at 28 days.
   d. Hold fourth (fifth) cylinder untested until specified concrete strengths are attained.
3. Structural Concrete Slump Test and Air Tests: Perform in accordance with ASTM D143 and C231 or C173 at the time of taking test cylinders, and/or at one-hour intervals during concrete placing.
4. Measure and record concrete temperature upon arrival of transit mixers and when taking specimens. Note weather conditions and temperature.
5. Propose adjustments to reviewed mix designs for Architect / Engineer review to account for variations in site or weather conditions, or other factors as appropriate.

C. Services by Contractor:
   1. Rejection of Concrete Materials: Do not use the following without prior written approval of the Architect/Engineer;
      a. Materials without batch plant certificates.
      b. Materials not conforming to the requirements of these specifications.

3.12 ADJUSTING

A. Inspect all concrete surfaces immediately upon formwork removal. Notify Architect/Engineer of identified minor defects. Repair all minor defects as directed.

B. Surface and Finish Defects: Repair as directed by the Architect/Engineer, at no added expense to the Owner. Repairs include all necessary materials; reinforcement grouts, dry pack, admixtures, epoxy and aggregates to perform required repair.
   1. Repair minor defective surface defects by use of drypack and surface grinding. Specific written approval of Architect/Engineer is required. Submit proposed patching mixture and methods for approval prior to commencing work.
   2. Slabs-on-Grade, Elevated Slabs and on Slabs on Metal Deck: Review for "curled" slab edges and shrinkage cracks prior to installation of other floor finishes. Grind curled edges flush, fill cracks of 1/16 inch and greater with cementitious grout.
   3. Grind high spots, fins or protrusions caused by formwork; Fill-in pour joints, voids, rock pockets, tie holes and other void not impairing structural strength. Provide surfaces flush with surrounding concrete.

3.13 DEFECTIVE CONCRETE

A. Defective Concrete: Concrete not conforming to required compressive strength, lines, details, dimensions, tolerances, finishes or specified requirements; as determined by the Architect/Engineer.

B. Repair or replacement of defective concrete will be determined by the Architect/Engineer who may order additional testing and inspection at his option. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

C. Specific Defects:
   1. "Low-Strength"; Concrete Not Meeting Specified Compressive Strength after 28 days:
      a. Concrete with less than 25% Fly Ash as cementitious material: Test remaining cylinder(s) at 56 days. If strength requirements are met, concrete strength is acceptable.
      b. Concrete with 25% or more Fly Ash as cementitious material: Test remaining cylinder(s) at 70 days. If strength requirements are met, concrete strength is acceptable.
   2. Excessive Shrinkage, Cracking, Crazing or Curling; Defective Finish: Remove and replace if repair to acceptable condition is not feasible.
   3. Lines, Details, Dimensions, Tolerances: Remove and replace if repair to acceptable condition is not feasible.
   4. Slab sections not meeting specified tolerances for trueness/flatness or lines/levels: Remove and replace unless otherwise directed by the Architect/Engineer. Minimum area for removal: Fifteen square feet area unless directed otherwise by the Architect/Engineer.
   5. Defective work affecting the strength of the structure or the appearance: Complete removal and replacement of defective concrete, as directed by the Architect/Engineer.

3.14 CLEANING

A. Maintain site free of debris and rubbish. Remove all materials and apparatus from the premises and streets at completion of work. Remove all drippings; leave the entire work clean and free of debris.

B. Slabs to Receive Floor Finishes Specified in other sections: Remove non-compatible cure/sealers or other foreign material(s) which may affect bonding of subsequent finishes. Leave in condition to receive work of related sections.

3.15 PROTECTION

A. Protect completed work from damage until project is complete and accepted by Owner.

B. Construction Loads: Submit engineering analysis for equipment loads (including all carried loads) specified in article submittals.

C. Keep finished areas free from all equipment traffic for a minimum of 4 additional days following attainment of design strength and completion of curing.

D. Protection of Drainage Systems:
   1. Care shall be taken not to introduce any foreign material into any specified drainage, piping or duct system.
   2. Cost of work to repair or clean drainage system as a result of failure to comply with this requirement will be back charged to the contractor.

E. Cover traffic areas with plywood sheets or other protective devices; maintain protection in place and in good repair for as long as necessary to protect against damage by subsequent construction operations.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 3 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Cast-in-Place Concrete specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

DIVISION 4 - MASONRY RESTORATION AND CLEANING

SECTION 04 50 00

MASONRY RESTORATION AND CLEANING

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, photos and general provisions of Contract, including General and Supplementary Conditions and Sections 1 through 14 and Division 01 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. Extent of masonry repair and restoration work as indicated on drawings, reports and specifications. Include or observe these identified preservation provisions:
   1. Perform an existing mortar analysis. Review use of cement in mortar mixture, as cement is discouraged in historic mortar mixes because damage can occur from mortar that is harder than the existing stone.
   2. Use hand tools to remove mortar in visible vertical masonry joints to avoid damage to masonry above and below the vertical joint.
   3. In order to avoid potential conflicts, these specifications supersede notes or specifications on structural drawings.
   4. Provide sample with specifications of grout injection for quality assurance.
   5. Extent of masonry cleaning should include <u>all</u> exposed exterior and interior masonry walls surfaces. Cleaning of only areas to be repaired could create an observable surface color difference.
   6. All masonry sealers to be used on the building are to be vapor permeable.

B. Masonry restoration work includes the following:
   1. Repointing mortar joints where indicated.
   2. Stone and brick repair where indicated.
   3. Stone and brick cleaning all surfaces.
   4. Stone and brick sealing all surfaces.
   5. Final Cleaning

1.3 QUALITY ASSURANCE

A. Restoration Specialist: Work must be performed by a firm having not less than 5 years successful experience in comparable masonry restoration projects and employing personnel skilled in the restoration processes and operations indicated.

B. Repointing: Prepare two samples of approximately 2 feet high by 2 feet wide for each type of repointing required, one sample to demonstrate the methods

and quality of workmanship expected in removal of mortar from joints and the other sample to demonstrate the quality of materials and workmanship expected in pointing (repointing) mortar joints appearance. The intent of the new pointing (repointing) work is to match cleaned existing mortar. Newly pointed areas shall be consistent with existing adjacent mortar joints for shape, color and texture.

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's technical data for each product indicated including recommendations for their application and use. Include test reports and certifications substantiating that products comply with requirements.

B. Samples: Submit, for verification purposes, samples of the following: Each new exposed masonry mortar to be used for replacing existing materials. Include in each set of samples the full range of colors and textures to be expected in completed work.
   1. Each type of chemical cleaning material data.
   2. Each type of chemical clear sealer provide manufacturers data.
   3. Stone or brick masonry patching materials product data and application instructions.

C. Section 5-3.03 Submittals.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products and manufacturers.

B. Protect masonry restoration materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.

C. Protect grout, mortar and other materials from deterioration by moisture and temperature.
Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

1.6 PROJECT CONDITIONS

A. Do not repoint mortar joints or repair masonry unless air temperatures are between 40 deg.F (4 deg.C) and 80 deg.F (27 deg.C) and will remain so for at least 48 hours after completion of work.

B. Prevent grout or mortar used in repointing and repair work from staining face of surrounding masonry and other surfaces. Remove immediately grout and mortar in contact with exposed masonry and other surfaces.

C. Protect sills, ledges and projections from mortar droppings.

1.7 SEQUENCING/SCHEDULING

A. Perform masonry restoration work in the following sequence:
   1. Clean brick, cut stone and rough cut stone masonry.
   2. Rake-out existing mortar from joints indicated to be repointed.
   3. Repoint existing mortar joints of masonry indicated to be restored.
   4. Chemically seal brick, cut stone and rough cut stone masonry.

PART 2 PRODUCTS

2.1 MASONRY MATERIALS

A. Mortar materials
   1. Cement.
   2. Hydrated Lime.
   3. Mortar Aggregate/Sand selected to match adjacent existing mortar color.
   4. For pointing mortar provide sand with rounded edges.
   5. Match size, texture and gradation of existing mortar as closely as possible.
   6. Colored Mortar Pigment of natural iron oxides and chromium oxides for use in mortar mixes. Use only pigments with record of satisfactory performance with historic masonry mortars.
   7. Water: Clean, free of oils, acids, alkalis and organic matter.

2.2 CLEANING MATERIALS AND EQUIPMENT

A. Cleaner: Manufacturer's as indicated below for cleaning of stone and masonry.

B. Approved Manufacturers
   1. Sika Corporation
   2. ProSoCo Inc. (Used as standard)
   3. Thuro
   4. Or equal.

C. Materials: The specified cleaning application is up to a three (3) step process requiring all of the following products. ProSoCo Sure Klean products are used as a standard.

D. For Cut stone and rough cut stone masonry
   1. First application, Sure Klean 766 for Stone and Masonry Prewash.
   2. Second application, Sure Klean for Stone and Masonry Afterwash.
   3. Third Application, Sure Klean Weather Seal Siloxane PD for Stone Treatment.

E. For Brick Masonry
   1. ProsoCo Sure Klean Restoration Cleaner

F. Water for Cleaning: Clean, potable, free of oils, acids, alkalis, salts, and organic matter.
   1. Warm Water: Heat water to temperature of 140 deg.F-180 deg.F (60 deg.C-82 deg.C).

G. Brushes: Fiber bristle only.

H. Spray Equipment: Provide equipment for controlled spray application of water and chemical cleaners, if any, at rates indicated for pressure, measured at spray tip, and for volume.
   1. For spray application of chemical cleaners provide low-pressure tank or chemical pump suitable for chemical cleaner indicated, equipped with cone or fan shaped spray-tip.

2.3 STONE REPAIR

A. Stone-to-Stone Adhesive: Two-part polyester resin stone adhesive with a 15-30 minute cure at 70 deg.F (21 deg.C), in formulation (knife or flowing grade) recommended by adhesive manufacturer for type of stone repair indicated, and in color indicated or, if not otherwise indicated, as selected by Architect from tinted or standard colors available from adhesive manufacturer.
   1. Product: Subject to compliance with requirements, provide "Akemi" adhesives distributed by Wood and Stone, Inc., 7567 Gary Road, Manassas, VA 22110.

2.4 POINT MORTAR MIXES

A. General:
   1. Measurement and Mixing: Measure cementitious and aggregate material in a dry condition by volume or equivalent weight. Do not measure by shovel, use known measure. Mix materials in a clean mechanical batch mixer.
   2. Mixing Pointing Mortar: Thoroughly mix cement and aggregate/sand materials together before adding any water. Then mix again adding only enough water to produce a damp, unworkable mix, which will retain its form when, pressed into a ball. Maintain mortar in this dampened condition for 1-to-2 hours. Add remaining water in small portions until mortar of desired consistency is reached. Use mortar of desired consistency within 30 minutes of final mixing; do not use partially hardened material.
   3. Colored Mortar: Produce mortar of color required by use of selected ingredients. Do not adjust proportions without Architect's approval.

2.5 CHEMICAL SEALERS

A. Chemical penetrating sealer used for brick, cut stone and rough cut stone to be one of the following.
   1. ProsoCo Siloxane PD
   2. Sika Corporation Silane/ Siloxane water repellant
   3. Throro Silane/siloxane water repellant
   4. Or Equal.

PART 3 EXECUTION

3.1 MASONRY CLEANING

A. Preparation
1. General: Comply with recommendations of manufacturers of chemical cleaners for protecting building surfaces against damage from exposure to their products.
2. Protect persons, motor vehicles, surrounding surfaces of building whose masonry surfaces are being restored, building site, mask windows and window frames.
3. Prevent chemical cleaning solutions from coming into contact with pedestrians, motor vehicles, landscaping, buildings and other surfaces, which could be injured by such contact.
4. Do not clean masonry during winds of sufficient force to spread cleaning solutions to unprotected surfaces.
5. Dispose of run-off from cleaning operations by legal means and in manner which prevents soil erosion, undermining of paving and foundations, damage to landscaping, and water penetration into building interiors.
6. Erect temporary protection covers over pedestrian walkways and at points of entrance and exit for persons and vehicles, which must remain in operation during course of masonry restoration work.
7. Protect glass and unpainted metal trim from contact with chemical cleaners by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape. Apply masking agent to comply with manufacturer's recommendations. Do not apply liquid masking agent to painted or porous surfaces.

B. Chemical Cleaner Application Methods:
1. General: Apply chemical cleaners to masonry surfaces to comply with chemical manufacturer's recommendations using brush or spray application methods, at Design-Builder's option, unless otherwise indicated. Do not allow chemicals to remain on surface for periods longer than that indicated or recommended by manufacturer.

C. Cleaning Cut and Rough Cut Stonework
1. Pretest a small area to ensure suitability and desired results. If test areas with concentrated material are cleaned effectively, additional tests may be run with dilutions of one part cleaner to three parts water. Greater dilution of 1 part cleaner to 4 or more parts water is desired to avoid staining of adjacent masonry if approved by manufacture and results are achieved. Allow to dry thoroughly before inspection by Owner’s Representative and Architect.

D. Cleaning Application for Cut Stone
1. Sequence of product application
a. Pre-wet surface
b. Prewash: After tests have determined desirable mix solution apply 766 Prewash with deep napped synthetic roller or nylon brush. Do not use natural fiber.

c. Allow Prewash to remain on surface for 30 minutes to one hour.
d. Rinse with pressure washer fitted with fan type spray no smaller than 15 degrees.
e. Immediately after rinsing 766 Prewash apply prepared (to desired dilution) After-wash to wet surface with roller or brush as specified for Prewash.
f. Allow the After-wash to remain on the surface for three to five minutes.
g. Pressure rinse from the bottom of the treated area to the top. Thoroughly rinse all chemicals from coping and down exterior walls.
h. Sealer: Allow cleaned surfaces too completely dry.
i. Apply undiluted Weather Seal Siloxane PD with brush or roller sufficient material to thoroughly saturate the surface. Brush out heavy runs, pools or puddles until they completely penetrate.

E. Cleaning Application for Brick Masonry
1. Apply chemical cleaner with low pressure sprayer (100 psi)
2. Allow to remain on brick for 3 to 5 minutes.
3. Scrub tough stains with stiff bristle brush.
4. Rinse with low pressure washer (100 psi).
5. Note: during the entire applications process the lower masonry areas must be regularly rinsed to avoid rundown staining of adjacent brick and stone masonry as recommended by manufacturer.

3.2 STONE REPAIR

A. Carefully remove loose stone fragments in areas which are indicated for repair. Reuse only pieces of spalled stone which are in sound condition.

B. Remove soil, loose stone particles, mortar, and other debris and foreign material from surfaces to be bonded of both fragment and building stone from which it was removed by cleaning with stiff brush.

C. Apply adhesive to comply with adhesive manufacturer's directions. Coat bonding surface of building stone with stone-to-stone adhesive completely filling all voids and covering all surfaces. Fit stone fragments onto building stone while adhesive is still tacky and hold fragment securely in place until adhesive has cured.

D. After adhesive has cured fully, further anchor stone fragments larger than 6"x 6" x 6" in any dimension with 1/4" diameter plain stainless steel rods set into 1/4" diameter holes drilled at a 45 degree downward angle through face of stone. Center and space anchor rods not more than 5" nor less than 3" apart and not less than 2" from any edge. Insert rods not less than 2" into backing stone and 2" into fragment with end countersunk at least 3/4" from exposed face of stone.

E. Clean any residual adhesive from edges. Wet stone and fill any chipped areas and frill holes with patching mortar. Avoid featheredging. Finish patched areas to match texture of, and be level with adjoining surrounding stone surfaces. Keep patching mortar damp for 72 hours.

3.3 STONE PATCHING

A. Remove loose particles, soil, debris, oil and other contaminants from existing stone units at locations indicated by cleaning with stiff brush.

B. Brush coat stone surfaces with mortar-to-stone adhesive to comply with manufacturer's directions.

C. Place patching mortar in layers no thicker than 2". Roughen surface of each layer to provide key for next layer.

D. Keep each layer damp for 72 hours or until mortar has set.

E. Unacceptable patches are defined as those with hairline cracks or showing separation from stone at edges. Remove patches and refill to provide patches free of those defects.

3.4 REPOINTING EXISTING MASONRY

A. Joint Raking:
1. Rake out mortar from joints to depths equal to 2-1/2 times their widths but not less than 3/4" nor less than that required to expose sound, un-weathered mortar.
2. Remove mortar from masonry surfaces within raked-out joints to provide reveals with square backs and to expose masonry for contact with pointing mortar. Brush, vacuum or flush joints to remove dirt and loose debris.
3. Do not spall edges of masonry units or widen joints. Replace any masonry units, which become damaged.
4. Cut out old mortar by hand with chisel and mallet, unless otherwise indicated.
5. Power operated rotary hand saws and grinders will be permitted but only on specific written approval of Architect based on submission by Contractor of a satisfactory quality control program and demonstrated ability of operators to use tools without damage to masonry. Quality control program shall include provisions for supervising performance and preventing damage due to worker fatigue.

B. Joint Pointing
1. Rinse masonry joint surfaces with water to remove any dust and mortar particles.
Time application of rinsing so that, at time of pointing, excess water has evaporated or run off, and joint surfaces are damp but free of standing water.
2. Apply first layer of pointing mortar to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8" until a uniform depth is formed. Compact each layer thoroughly and allow to become thumbprint-hard before applying next layer.
3. After joints have been filled to a uniform depth, place remaining pointing mortar in 3 layers with each of first and second layers filling

approximately 2/5 of joint depth and third layer the remaining 1/5. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have rounded edges recess tool final layer slightly back from face of brick. Take care not to spread mortar over edges onto exposed masonry surfaces, or to featheredge mortar.

4. When mortar is thumbprint hard, tool joints to match original appearance of joints, unless otherwise indicated. Remove excess mortar from edge of joint by brushing.
5. Cure mortar by maintaining in a damp condition for not less than 72 hours.
6. Where repointing work precedes cleaning of existing masonry allow mortar to harden not less than 30 days before beginning cleaning work.
7. Owner shall have the right to perform periodic tests to verify depth of repointing.
8. Contractor shall repair with like materials at area(s) where mortar has been removed to ascertain depth of repointing.

3.5 FINAL CLEANING

A. After mortar has fully hardened thoroughly clean exposed masonry surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water, spray applied at low pressure.

B. Use of metal scrapers or brushes will not be permitted.

C. Use of acid or alkali cleaning agents will not be permitted.

3.6 MASONRY SEALING

A. Protection: mask windows and window frames as sealer is being applied.

B. Do not apply sealer in windy when air temperature is above 95 degrees F.

C. Test each surface to be covered. Wet each surface with as a test to determine suitability and results. Wet surfaces without creating drip or rundowns.

D. Spray apply from bottom up creating 4 to 8 inch rundown below the spray contact point. Brush out heavy runs and drips that do not penetrate.

E. Treated surfaces are dry to touch in one hour and protected from rain for six hours following application.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 4 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Masonry Restoration and Cleaning specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 04 50 10

GROUT INJECTION

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, photos and general provisions of Contract, including General and Supplementary Conditions and Sections 1 through 14 and Division 01 Specification sections, apply to work of this section.
B. Masonry Repair, Restoration and Cleaning Section 04 50 00.

1.2 DESCRIPTION OF WORK

A. Extent of grout injection work as indicated on drawings, reports and specifications.

B. Grout Injection work includes the following:
1. Repair cracks by injection process.
2. Fill internal voids in stone wall by injection process.
3. See structural drawings for additional information.
4. Clean up upon completion of injection process.

1.3 QUALITY ASSURANCE

A. Restoration Specialist: Work must be performed by a firm having not less than 3 years successful experience in comparable masonry repair using grout injection projects and employing personnel skilled in the crack repair processes and the operations indicated.

B. Crack Repair: Provide manufacturer’s required processes including use of special inspectors during the repair process. Coordinate repair work with Engineer and local building official have jurisdiction over this work.

1.4 SUBMITTALS

A. Product Data: Submit manufacturer's technical data with sample for each product indicated including recommendations for their application and use. Include test reports and certifications substantiating that products comply with requirements.

B. Procedures & Schedule: Provide procedural requirements including the proposed schedule for the work and inspections.

C. Section 5-3.03 Submittals.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original and unopened containers and packaging, bearing labels as to type and names of products and manufacturers.

B. Protect grout injection materials during storage and construction from wetting by rain, snow or ground water, and from staining or intermixture with earth or other types of materials.

C. Protect grout, mortar and other materials from deterioration by moisture and temperature.

1. Store in a dry location or in waterproof containers. Keep containers tightly closed and away from open flames. Protect liquid components from freezing. Comply with manufacturer's recommendations for minimum and maximum temperature requirements for storage.

1.6 PROJECT CONDITIONS

A. Do not repoint mortar joints or repair masonry unless air temperatures are between 40 deg.F (4 deg.C) and 80 deg.F (27 deg.C) and will remain so for at least 48 hours after completion of work.

B. Prevent grout or mortar used in grout injection repair work from staining face of surrounding masonry and other surfaces. Remove immediately grout and mortar in contact with exposed masonry and other surfaces.

C. Protect sills, ledges and projections from grout spillage or droppings.

1.7 SEQUENCING/SCHEDULING

A. Perform grout injection per manufacturer’s recommendations to insure best practices and proper installation of the product.

PART 2 PRODUCTS

2.1 GROUT INJECTION MATERIALS

A. Mortar materials
1. Plastic “Portland” Cement.
2. Hydrated Lime – type “S”.
3. Grout sand - #60 and #90 grit silica.
4. Type “F” fly ash.
5. Potable water: Clean, free of oils, acids, alkalis and organic matter.

2.2 CLEANING MATERIALS AND EQUIPMENT

A. Cleaner: Follow Manufacturer's instructions for a historic stone building.

B. Water for Cleaning: Clean, potable, free of oils, acids, alkalis, salts, and organic matter.
   1. Warm Water: Heat water to temperature of 140 deg.F-180 deg.F (60 deg.C-82 deg.C).

C. Brushes: Fiber bristle only.

2.3 GROUT INJECTION MIXES

A. General:
   1. Measurement and Mixing: Per Manufacturer’s requirments:
      a. 3 parts #60 silica sand.
      b. 1 part #90 silica sand.
      c. 1 part plastic Portland cement.
      d. ½ part type S lime.
      e. ½ part type F fly ash.

   2. Mixing Grout: Thoroughly mix cement and sand materials together and add 2 ½ parts of potable water. Water shall be sufficient to achieve a pourable but not watery consistency per recommended flow test. Water may be added to the mix to maintain the required consistency. Grout shall not be used more than 2 ½ hours after initially adding potable water to dry ingredients.

PART 3 EXECUTION

3.1 GROUT INJECTION

A. Preparation
1. Apply1 coat of a masonry sealant to any portion of masonry wall to remain exposed on which grout may spill.
2. Remove loose mortar from open joints. Mortar not bonded to at least one stone or easily debonded shall be removed.
3. Clean the cracks by flushing with water.
4. Fill the premoistened cracks and open joints with prescribed historic lime enriched mortar. Tool the mortar joints to match the adjacent existing joints.
5. Remove and reset, with mortar, stones that are determined visually or by hand to be debonded from adjacent stones. Clean loose mortar from the cavity and flush with water before resetting the stone.
6. Drill 3/4 inch minimum diameter injection holes into the crack at a head joint or cracked stone. Holes shall penetrate to the near face of the far wythe.
7. Drill 3/4 inch minimum diameter verification ports into the head joint approximately 8 to12 inches on each side of the crack to the same depth as described number 6 above.

8. Thoroughly wash and saturate the wall by flushing with water approximately 24 hours before injection. Use water at City pressure through an injection wand that can be inserted the full depth of the holes. Flush each injection hole and verification port working from far collar joint to near collar joint in each hole and from top to bottom. Flush each hole until the water flows clear.
9. Thoroughly saturate the wall by the same method immediately prior to grout injection.
10. Repeat if more than two hours have elapsed between flushing and injection.

3.2 FINAL CLEANING

A. After injecting the grout thoroughly clean exposed stone surfaces of excess mortar and foreign matter using stiff nylon or bristle brushes and clean water, spray applied at low pressure.

B. Use of metal scrapers or brushes will not be permitted.

C. Use of acid or alkali cleaning agents will not be permitted.

3.3 MASONRY SEALING

A. Protection: mask windows and window frames as sealer is being applied.

B. Do not apply sealer in windy when air temperature is above 95 degrees F.

C. Test each surface to be covered. Wet each surface as a test to determine suitability and results. Wet surfaces without creating drip or rundowns.

D. Spray apply from bottom up creating 4 to 8 inch rundown below the spray contact point. Brush out heavy runs and drips that do not penetrate.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 4 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Grout Injection specifications and include this work as part of the Masonry Restoration and Cleaning work, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

DIVISION 5 - METALS

SECTION 05 12 00

STRUCTURAL STEEL FRAMING

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: All labor, materials, equipment and operations required to complete structural and miscellaneous metals in shapes and configurations indicated; including:
   1. Structural steel columns, beams, bracing, bolts, and stud bolts welded to structural steel.
   2. Miscellaneous structural steel and connections; fabricated connectors and hangers installed by related sections.
   3. Anchor bolts and steel inserts embedded in concrete or masonry, installed by related sections.
   4. Fabricated steel items embedded in concrete or masonry installed by related sections.
   5. Shop priming and field touch-up, galvanizing.
   6. Bracing, Shoring, Fabrication and Erection.

B. Related Sections:
   1. Pertinent sections of Sections 1 through 14 and Division 01 specifying Quality Control and Testing Agency services.
   2. Pertinent Sections of other Divisions specifying structural and miscellaneous metal fabrications, rough carpentry.

1.2 REFERENCES

A. California Code of Regulations, Title 24, latest adopted edition (herein noted as CBC): Chapter 22 Steel.

B. American Institute of Steel Construction (AISC) 303 “Code of Standard Practice for Steel Buildings and Bridges”.

C. AISC 360 “Specification for Structural Steel Buildings”.

D. American Welding Society (AWS) D1.1 “Structural Welding Code - Steel”.

E. Research Council on Structural Connections (RCSC) “Specification for Structural Joints Using ASTM A325 or A490 Bolts”.

F. Underwriters Laboratories (UL) FRD “Fire Resistance Directory”.

1.3 SUBMITTALS

A. Submit in accordance with pertinent sections of Sections 1 through 14 and Division 01 specifying submittal procedures. The General Contractor shall review and approve shop drawings prior to submittal to the Architect/Engineer. Submittals that do not meet these requirements will be returned for correction without review.

B. Limitation of Review: Structural Engineer's review will be for general conformance with design intent as indicated in the Contract Documents and does not relieve Contractor of full responsibility for conformance with the Contract Documents.

C. Product Data: Submit manufacturer's product data, specifications, location and installation instructions for proprietary materials and reinforcement accessories. Provide samples of these items upon request.

D. Shop drawings: Submit as a complete unit. Do not mix components from multiple units of work in a submittal. Include all of the following;
1. Profiles, sizes, spacing, locations of structural members, openings, attachments, and fasteners.
2. Fabrication tolerances for all steel.
3. Connections: All, including type and location of shop and field connections.
4. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths, type, size, and sequence.
5. Cross-reference all shop drawing detail references to contract document detail references.
6. Secure all field measurements as necessary to complete this work prior to submitting shop drawings for review.
7. Provide holes, welded studs, etc. as necessary to secure work of other sections.

E. Certifications:
1. Steel Materials: Submit the following for identified materials.
   a. Manufacturer's Mill Certificate: Certify that products meet or exceed specified requirements.
   b. Mill Test Reports: Indicate structural strength, destructive test analysis, and non-destructive test analysis.
   c. Contractor's affidavit certifying that all identified steel materials provided are of the grades specified and match the certificates supplied.
2. High-Strength Bolting: Certify all materials provided are the grades specified.
3. Welders Certificates: Certify welders employed on the Work, verifying AWS qualification per AWS D1.1.

F. Samples: Provide samples to the Testing Agency as specified in Article SOURCE QUALITY CONTROL, at no additional costs.

G. Section 5-3.03 Submittals.

1.4 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies, refer to pertinent sections of Sections 1 through 14 and Division 01 and CBC Chapter 17.

B. All tests shall be performed by a recognized testing agency as specified in pertinent sections of Sections 1 through 14 and Division 01.

C. Certification and Identification of Materials and Uses: Provide Testing Agency with access to fabrication plant to facilitate inspection of steel. Provide notification of commencement and duration of shop fabrication in sufficient time to allow inspection and all material identification/test information listed below.
   1. Test all steel as required by ASTM A6.
   2. Provide manufacturer's Mill Test Reports for all materials. Include chemical and physical properties of the material for each heat number manufactured. Tag all fabricated materials with heat number.
   3. Provide letter certifying all materials supplied are from heat numbers covered by supplied mill certificates. Include in letter the physical location of each material type and/or heat number in the project (i.e. walls, braced frames etc.).
   4. Unidentified Material Tests: Where identification of materials by heat number or mill tests cannot be made, Owner's Testing Agency shall test unidentified materials.
   5. Provide all certification, verifications, and other test data required to substantiate specified material properties at no additional cost to the Owner.

D. Testing and Inspection: Tests and Inspections performed by Independent Testing Agency are specified below in Articles SOURCE QUALITY CONTROL and FIELD QUALITY CONTROL. Duties and limitations of Independent Testing Agency, test costs and test reports in conformance with pertinent sections of Sections 1 through 14 and Division 01.

E. The following standards are the minimum level of quality required. Provide higher quality work as specifically indicated in the Contract Documents.
   1. Workmanship and details of structural steel work shall conform to the CBC and AISC 360.
   2. The quality of materials and the fabrication of all welded connections shall conform to AWS D1.1.

F. The Testing Agency will review all submittals and testing of materials.

G. All re-inspections made necessary by non-conforming work shall be at the Contractor's expense.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to project site in bundles marked with durable tags indicating heat number, mill, member size and length, proposed location in the structure and other information corresponding with markings shown on placement diagrams.

B. Handle and store materials above ground to prevent damage, contamination or accumulation of dirt or rust.

1.6 SCHEDULING AND SEQUENCING

A. Organize the work and employ shop and field crew(s) of sufficient size to minimize inspections by the Testing Agency.

B. Provide schedule and sequence information to Testing Agency in writing upon request. Update information as work progresses.

PART 2 PRODUCTS

2.1 MATERIALS

A. Structural Steel W Shapes: ASTM A992 Gr. 50 or ASTM A572 Gr. 50.

B. Structural Steel Plates: ASTM A36 or ASTM A572 Gr. 50 or ASTM 529 Gr. 50

C. Structural Steel Channels, Angles: ASTM A36 or ASTM A572 Gr. 50.

D. HSS (Hollow Structural Sections):
1. Round: ASTM A500, Gr. B.
2. Rectangular or Square: ASTM A500, Gr. B.

E. Pipe: ASTM A53, Grade B.

F. Bolts and Washers: See FINISHES section for galvanization, where required.
1. Machine Bolts and Washers: Bearing and shear connections (denoted as “MB”); ASTM A307, Grade A.
2. High Strength Bolts, Nuts, and Hardened Washers: Bearing and shear connections (denoted as “HSB”); ASTM A325, ASTM A563 and ASTM F436, respectively.
   a. HSB-N: For use in a snug tight (ST) and pretensioned joints (PT) conforming to the RCSC Specifications.
   b. HSB-X: For use in a slip critical (SC) connections conforming to the RCSC Specifications requiring a Type A faying surface (including coatings). All galvanized surfaces shall be Type C and hand wire brushed and roughened.

c. Use of qualified ASTM F1852 (twist off assemblies) is permitted conforming to requirements of RCSC Specifications.
d. Use of qualified ASTM F959 Load Indicator Washers is permitted conforming to the requirements of RCSC Specifications.

G. Anchor Bolts/Rods:
1. ASTM F1554 Gr. 36 or 55
2. No upset thread allowed.

H. Arc-Welding Electrodes: AWS Standards E70 or equivalent, except no E70T-4 allowed.

I. Other Welding Materials: AWS D1.1; type required for materials being welded.

2.2 ACCESSORIES

A. High Strength Grout: ASTM C1107 and CRD-C621, non-shrink, premixed compound consisting of aggregate, cement, and water reducing plasticizing agents.
1. Minimum Compressive Strength at 48 hours: 2400 psi.
2. Minimum Compressive Strength at 28 days: 7000 psi, placed in a “fluid” state.
3. Provide only non-metallic grout at exposed work.
4. Meet or exceed properties of BASF "Master Flow 928" mixed to fluid consistency. Other acceptable manufacturers: The Burke Company and W.R. Meadows, Inc.

B. Building Structural Steel Primers: Comply with local VOC limitations of authorities having jurisdiction and the California Green Building Code. Verify compatibility with finish coats specified in other sections. Follow manufacturers printed instructions. Apply one coat unless otherwise directed.
1. Type B: Organic Zinc-Rich Urethane passing 10,000 hours ASTM B117 & G85. “Series 90-97/H90-97 Tneme-Zinc” by Tnemec (2.5 to 3.5 mils DFT) or “Series 94-H20 Hydro-Zinc” by Tnemec (2.5 to 3.5 mils DFT).

C. Galvanizing: ASTM A153 and A123.

D. Touch-Up Primer for Galvanized Surfaces: Type B primer.

2.3 FABRICATION

A. Shop fabricate to greatest extent possible.

B. Continuously seal joined members by continuous welds. Grind welds smooth where exposed to view and where noted on drawings.

C. Fabricate connections for bolt, nut, and washer connectors.

D. Protect all materials, before and after fabrication, from rust, corrosion, dirt, grease, and other foreign matter.

E. Fabricate framing members free from twists or bends. Form holes, cut and sheared edges neatly without kinks, burrs, or warped edges.

F. Exposed Steel: Straight, smooth, free of nicks, scars or dents.

G. Gas Cutting: Gas cutting of holes in a member shall not be permitted.

H. Splicing of members: Members requiring splicing due to length requirements may be spliced using full penetration butt welds when such welds and procedures are inspected and certified by the Testing Agency, in conformance with AWS and AISC standards. The location of splices shall be approved by the Architect/Engineer in writing prior to fabrication.

I. Welding: Welding of structural steel connections shall be performed by qualified welders in accordance with AWS Standards. All weld sizes shall match those shown on the drawings.
   1. Preparation: Clean all surfaces free of rust, paint and all foreign matter. Remove paint or scale by brushing, chipping or hammering as required. Chip clean and wire brush burned or flame cut edges before welding. Space and alternate welds, clamping as necessary to prevent warp or misalignment.
   2. Sequence Welding: When welds enclose, or partially enclose, the perimeter or portion of the surface of a member, make weld bead in sequence, or staggered. Minimize internal stresses. Weld groups of members occurring in a single line in staggered sequence to minimize distortion of the structural frame.
   3. Faulty and Defective Welding: Welds failing to meet AWS standards and the Contract Documents shall be rejected and remade at Contractor expense. All welds showing cracks, slag inclusion, lack of fusion, bad undercut or other defects, ascertained by visual or other means of inspection shall be removed and replaced with conforming work.
   4. Minimum Weld Strengths: All welds shall match the minimum weld sizes recommended by AISC. Details of fabrication not specifically shown shall match similar details which are specifically shown. All bevel and groove welds shall be full penetration unless size is noted otherwise.
   5. Threaded studs, headed studs, and deformed bar anchors shall be full-fusion welded conforming to ASW D1.1.

J. Grinding: Grind smooth the following structural steel and connections;
   1. Exposed cut ends of structural and fabricated shapes.
   2. All welds exposed to view.
   3. Mitered and fit-up corners and intersections.

K. Back-Up Bars: Required for all complete penetration welds.

L. Bolt Holes: Edge, end distances and spacing shall conform to dimensions shown on the drawings, and as follows;
   1. Round: Size indicated and 1/16 inch maximum oversize
   2. Slotted: At locations specifically noted on the drawings, provide size indicated and 1/16 inch by 1/4 inch oversize slotted in direction perpendicular to applied loads.

2.4 FINISHES

A. Prepare and finish structural and miscellaneous steel component surfaces as follows:
   1. Exterior exposed surfaces and as otherwise indicated to receive galvanizing:
      a. Galvanize per ASTM A123 Class 55 minimum. Passivation agents are not permitted on galvanized metal that is to be painted. Provide vent holes per ASTM A385 at closed sections (such as HSS). Submit proposed location of vent holes for review by Engineer.
      b. Connection hardware shall be hot-dip galvanized per ASTM A153 or F2329. ASTM A325 high-strength bolt assemblies may be mechanically galvanized per ASTM B695 class 55 or hot-dip galvanized per ASTM F2329. Mating bolts and nuts shall receive the same zinc-coating process.
      c. Repair all uncoated, damaged, or altered galvanized surfaces per ASTM A780.

B. Do not prime the following surfaces unless otherwise indicated:
   1. Connections to be field welded.
   2. Surfaces to receive welded metal decking.

C. Slip critical bolted connection surfaces shall either be unfinished & prepared per the RCSC or primed per item B3 or B4.

D. Do not cover up work with finish materials until inspection is complete and work is approved by the Testing Agency.

2.5 SOURCE QUALITY CONTROL

A. An independent Testing Agency will perform source quality control tests and submit reports, as specified in pertinent sections of Sections 1 through 14 and Division 01.

B. Steel Materials Testing:
   1. No testing is required for materials identified in accordance with CBC Section 2203 (heat number, grade stencil, etc.).
   2. Unidentified steel- General: Test all structural shapes. In addition, test to verify Fy and Fu values when engineering requirements exceed Fy = 25 ksi for design.

C. Shop Welding Inspection:
   1. Testing Agency shall inspect and certify all structural welds, unless the

fabricating shop has been accredited in conformance with CBC requirements. Submit certification to the Architect/Engineer for review and the Building Official for approval.

2. Welder Qualifications: Welding inspector shall verify that all the welders are properly qualified prior to steel fabrication and state the qualifications of each welder in the welding inspection report.
3. Welding Inspection: Continuous inspection required unless otherwise noted below. Comply with requirements of AWS D1.1, AWS D1.8 and AISC 341.
   a. Welding Inspector shall check all welds, materials, equipment and procedures.
   b. Welding Inspector shall provide reports certifying the welding is as required and has been done in conformity with the plans, specifications and codes.
   c. Welding Inspector shall use radiographic, ultrasonic, magnetic particle, or any other necessary aid to visual inspection to assure adequacy of welds.
4. Periodic Inspection Acceptable:
   a. Single pass fillet welds not exceeding 5/16 inch.
   b. Welding of studs to beams.

D. Bolts, Nuts and Washers: Provide samples to Testing Agency for required testing, at no additional cost.

E. High Strength Bolted Connections: Provide testing and verification of shop-bolted connections in accordance with RCSC specifications. Test all bolts at each connection.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that conditions are appropriate for erection of structural steel and that the work may properly proceed.

3.2 ERECTION

A. Erect structural steel in compliance with AISC 303.

B. Framing:
   1. Erect all structural steel true and plumb.
   2. Verify proper final alignment prior to making final connections.

C. Field Connections:
   1. Workmanship of field bolted and welded connections shall conform in all respects to methods and tolerances specified for fabrication.
   2. Field weld components indicated on shop drawings. Sequence field welds to minimize built-up stress and distortion of the structural frame. Verify sequence with Engineer. Coordinate field welding schedule with Testing

Laboratory.

3. Welded Studs: Install in accordance with manufacturer's instructions and structural welding code AWS D1.1.

D. Bolting - General:

1. Inspect mating surfaces to insure that bolt head and nut will have full bearing and that metal plies will mate flush between bolts.
2. Install bolts in matching holes. Do not distort metal or enlarge holes by drifting during assembly. Remake mismatched components to achieve tolerances indicated.
3. Holes mismatched in excess of 1/8 inch will be rejected.
4. Holes mismatched less than 1/8 inch may be reamed to the next larger size bolt.
5. Do not enlarge holes by flame cutting or air/arc ("plasma") cutting.
6. Provide flat washer(s) at over-size holes.
7. Provide washers for all conditions per RSCS Section 6 and under nuts to connected parts less than ¼ inch thick.
8. Provide ASTM F436 beveled washers when the slope of the surfaces of parts in contact with the bolt head or nut is greater than 1:20.
9. Do not install bolts with damaged threads.
10. Threads shall commence outside of the shear plane.

E. Bolting - Specific:

1. Machine Bolts (MB): Install and tighten to a snug condition (ST) such that laminated surfaces bear fully on one another, using an impact wrench or "full effort" of an installer using a standard spud wrench.
2. High Strength Bolts in Bearing/Shear or Static Tension joints snug tight (ST):
   a. Provide a hardened washer at the head/nut at slotted holes
   b. Install and tighten as per Machine Bolts (MB) snug tight (ST) and other requirements of RCSC specification Section 8.
   c. Use ASTM F436 washer only in snug tight connections with static tension loads.
3. High Strength Bolts in Pretensioned joints (PT):
   a. Provide ASTM F436 washer per requirements of RCSC Section 6.
   b. Install and tighten in accordance with the requirements of RCSC Section 8.
   c. Install bolts in all holes of the joint and compact the joint until the connected plies are in firm contact prior to pretensioning.
   d. The following tightening methods and bolt type are acceptable for PT joints:
      (a) Turn-of-the-nut pretensioning method
      (b) Calibrated wrench pretensioning method
      (c) Twist-off-type tension-control bolts
      (d) Direct-tension-indicator washer pretensioning method.
4. High Strength Bolts in Slip Critical (SC) joints:
   a. Provide tensioning for High Strength Bolts (PT) per above.
   b. Faying surfaces to be prepared per RCSC Section 3 and PART 2.

F. Supports, Shoring and Bracing: Allow for erection loads and provide sufficient temporary bracing to maintain structure in safe condition, plumb, and in true alignment until completion of erection and installation of permanent bracing. Conform to requirements of all applicable laws and governing safety regulations. Resist imposed loads, including those of stored materials and equipment.

1. Provide all temporary supports, shoring and bracing necessary to achieve work of tolerances indicated.
2. Provide all necessary temporary flooring, planking and scaffolding required for erection of steel, and support of erection machinery.
3. Construction Loading: Do not overload the structure or temporary supports with stored materials, equipment or other loads.
4. Maintain temporary bracing and shoring until work is complete, and longer as required to ensure stability and safety of structure.

G. Do not make final connections until structure is aligned to meet specified tolerances.

3.3 ERECTION TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch per story, non-cumulative.

B. Maximum Offset From True Alignment: 1/4 inch.

3.4 FIELD QUALITY CONTROL

A. The independent Testing Agency will perform field quality control tests, as specified in pertinent sections of Sections 1 through 14 and Division 01.

B. Field Welding Inspection: Conform to all requirements of section SOURCE QUALITY CONTROL.

C. High Strength Bolting: Provide testing and verification of field-bolted connections in accordance with RCSC Section 9.

1. Inspect mating surfaces.
2. Test all materials prior to use. Use only materials meeting specified requirements.
3. Inspector shall review installation and verify “full effort” with installers for ST joints and shall randomly manually verify “full effort” on 10 percent of installed bolts.
4. Inspector shall verify installation for 100% of SC and PT joints.
5. Review installation procedures for all types of HSB joints and verify installation of “Twist-off” and load-indicator type bolts.
6. If any bolt fails testing, all bolts at the joint shall be loosened and re-tightened. Exception: Galvanized bolts shall be replaced prior to re-testing.

3.5 ADJUSTING

A. Touch-up damaged finishes with compatible specified primer.

B. Replace defective or damaged work with conforming work. Replace all defective work at Contractor's expense.

C. Straighten materials by means that will not injure the materials.

D. Replace defective or damaged work which cannot be corrected in the field with new work, or return defective items to the shop for repair.

E. Architect/Engineer shall review all proposals for the repair or replacement of damaged, defective, or missing work.

F. Pay expenses incurred by Owner for Architect/Engineer's costs for (re-) design and obtaining approvals of Authorities Having Jurisdiction (AHJ) necessitated by incomplete, inefficiently scheduled, improperly performed, defective or nonconforming work, as specified in pertinent sections of Sections 1 through 14 and Division 01.

G. Pay expenses due to re-testing and re-inspection necessitated by incomplete, inefficiently scheduled, improperly performed, defective or nonconforming work, as specified in pertinent sections of Sections 1 through 14 and Division 01.

3.6 CLEANING AND PROTECTION

A. Clean all surfaces upon completion of erection; leave free of grime and dirt. Remove unused materials, tools, equipment and debris from the premises and leave surfaces broomed clean.

B. Protect work from damage by subsequent operations.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 5 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Structural Steel Framing specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

DIVISION 6 – WOOD, PLASTICS AND COMPOSITES

SECTION 06 10 00

ROUGH CARPENTRY

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: All labor, materials and equipment and all operations required to complete all rough carpentry and structural framing as indicated on the drawings; to produce shapes and configurations as shown, as required; and as specified herein, including:
1. Structural floor, wall, and roof framing.
2. Floor, wall, and roof sheathing.
3. Rough hardware, framing connectors and fasteners.
4. Treatment of wood.
5. Concealed wood blocking for support of toilet and bath accessories, wall cabinets, wood trim, and other work requiring supporting blocking.
6. Miscellaneous wood nailers and furring strips, including roof applications, other wood framing, furring, shims or blocking as required to complete the work.

B. Related Sections:
1. Pertinent sections of Sections 1 through 14 and Division 01 specifying Quality Control and Testing Agency services.
2. Pertinent sections of Sections 1 through 14 and Division 01 specifying Structural Product Requirements: Structural Product Options, Substitution procedures and limitations, transportation, handling and storage.
3. Pertinent sections of Division 03 specifying wood formwork construction and/or setting anchors in concrete.
4. Pertinent section of Division 06 specifying wood construction and materials.
5. Pertinent sections of other divisions specifying steel.

1.2 REFERENCES

A. California Code of Regulations, Title 24, latest adopted edition (herein noted as CBC): Chapter 23 Wood.

B. American National Standards Institute (ANSI) / American Wood Council (AWC) “NDS - National Design Specification for Wood Construction”.

C. National Institute of Standards and Technology (NIST) / Engineered Wood Association (APA) “PS 1 - Voluntary Product Standard for Structural Plywood”.

D. NIST / APA “PS 2 - Performance Standard for Wood-Based Structural-Use Panels”.

E. NIST “PS 20 - American Softwood Lumber Standard”.

F. West Coast Lumber Inspection Bureau (WCLIB) “Standard Grading Rules for West Coast Lumber No. 17”.

G. Western Wood Products Association (WWPA) “Western Lumber Grading Rules”.

1.3 SUBMITTALS

A. Submit in accordance with pertinent sections of Sections 1 through 14 and Division 01 specifying submittal procedures. Submit for review prior to fabrication. Submittals that do not meet these requirements will be returned for correction without review.
   1. Substitutions for products specified require conformance to substitution requirements in Sections 1 through 14 and Division 01.
   2. Review of materials and hardware for substitution to products specified is at the additional expense of the Contractor.

B. Limitation of Review: Structural Engineer's review will be for general conformance with design intent as indicated in the Contract Documents and does not relieve Contractor of full responsibility for conformance with the Contract Documents. The General Contractor shall review and approve shop drawings prior to submittal to the Architect/Engineer.

C. Product Data:
   1. Submit manufacturer's product data, specifications, and installation instructions for & location of framing connectors, wood preservative materials, application instructions, and fasteners. Include complete, accurate equivalence data when submitting alternate products to those specified. Provide samples of these items upon request.
   2. Submit product data and current ICC-ES report for machine-driven nails, fasteners, and equipment, including dimensions of all fasteners, including head, shank diameter and length.
   3. Submit samples of each and every type and size of proposed machine-driven nails and fasteners.

D. Manufacturer's Certificate: Submit all certifications of physical and chemical properties of materials as specified below in Article titled QUALITY ASSURANCE.
   1. Certify that wood products supplied for rough carpentry meet or exceed specified requirements, including specified moisture content.

1.4 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies, refer to pertinent sections of Sections 1 through 14 and Division 01 and CBC Chapter 17.

B. All tests shall be performed by a recognized testing agency as specified in pertinent sections of Sections 1 through 14 and Division 01.

C. End-Jointed lumber shall not be used.

D. Hardware and engineered wood products shall have current ICC ES Evaluation/research reports that are equivalent to products specified.

E. Employ competent workmen experienced in work of the types specified and required.

1.5 DELIVERY, STORAGE AND HANDLING

A. Comply with pertinent requirements of Sections 1 through 14 and Division 01.

B. Delivery: Time delivery and installation of carpentry products to avoid delaying other trades whose work is dependent on or affected by this section and to comply with moisture content, protection and storage requirements.

C. Keep materials dry at all times. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber and sheathing panels to prevent deformation and provide air circulation within stacks.
   1. Store materials for which a maximum moisture content is specified only in areas where relative humidity has been reduced to a level where specified moisture content can be maintained.
   2. Handle and store materials above ground to prevent damage, contamination, or accumulation of dirt or foreign materials.
   3. Deformation of panels due to moisture is not acceptable.

1.6 PROJECT/SITE CONDITIONS

A. Verify all conditions at project site affecting the work; work to field dimensions as required. Coordinate carpentry installation with size, location, and installation of service utilities.

B. Sequence rough carpentry installation activities to allow sufficient time for:
   1. Review of all submittals, including machine-driven nail sample submittals.
   2. Indicate submittal review, procurement, and testing activities in the project schedule prior to the start of installation. Installation durations shall be based on hand-nailed installation methods specified.
   3. Attainment of specified maximum lumber moisture content.

PART 2 PRODUCTS

2.1 DIMENSIONED LUMBER

A. General
1. Size per industry standards for nominal sizes shown; S4S (sanded four sides).
2. Warped/twisted and excessively checked members shall not be used regardless of grade marks.
3. At the Contractor's option, engineered lumber of equivalent size and material properties may be substituted for solid sawn lumber where material is difficult to source due to length, availability, etc. Submit proposed substitution to Engineer for review prior to purchasing materials.

B. Moisture content of framing:
1. All lumber to be maximum 19% at time of fastener installation. All lumber to be maximum 19% at time of close-in, unless noted otherwise.
2. The Owner's Testing Laboratory will test for moisture content prior to commencement of close-in.
3. The Contractor shall recognize that excessive shrinkage of lumber results from excess moisture content at the time of installation. The Contractor will compensate for use of such lumber by waiting for acceptable moisture content before close in and/or by replacing/repairing lumber that has sagged, twisted, or warped prior to close in.
4. Deviation from this specification would require structural redesign of connections and fasteners.

C. Interior structural framing shall be Douglas Fir (D.F.) with grades as noted below, unless otherwise specified on the drawings. All grades are per WCLIB standard grading rules.
1. Unless noted otherwise, minimum grades are:
a. Blocking: D.F. No. 2

D. Framing not otherwise shown or specified: Douglas Fir construction grade per WCLIB paragraphs applicable to uses and sizes required.

2.2 MANUFACTURED STRUCTURAL PANELS

A. Plywood: Structural sheathing shall conform to product standard PS-1 or PS-2. All panels shall have an exterior exposure rating and bear the trademark of the Engineering Wood Association (APA) or other qualified agency. Grades shall be as required on the drawings.

B. Oriented Strand Board (OSB): All structural OSB shall be grade marked by a qualified agency for conformance with Product Standard PS-2 and shall be fabricated with exterior glue. Grades shall be as required on the drawings.

2.3 FASTENERS AND ACCESSORIES

A. General requirements for fasteners:
   1. Fasteners shall be of adequate size, spacing, and number to resist design loads under intended use, and types shall be appropriate for the materials or conditions for which used.
   2. Provide washers, pre-drilling, etc. as required for proper installation and to prevent damage to framing.
   3. All fasteners specified by manufacturer shall be installed in framing hardware, unless noted otherwise.

B. Nails and nailing not otherwise shown or specified:
   1. Comply with requirements of governing building code.
   2. For securing materials to hardened concrete or masonry provide hardened steel masonry nails or Simpson Strong-Tie “Titen” screws.
   3. For framing and general woodwork: Common bright wire nails (not box nails) per ASTM F1667. 16d cement coated sinker nails may be used in lieu of common nails for framing, where noted on the drawings.
   4. Nails for sheathing panels shall be of common wire with full round heads and shall be of sufficient length to fully develop the nails.
   5. Machine-driven nails of all types must comply with the requirements of this section. All proposed nails shall match diameter and penetration of specified nails.

C. Bolts: Malleable iron washers or steel plate washers, unless otherwise shown, shall be provided under all bolt heads and nuts.
   1. Machine Bolts: ASTM A307 and ANSI/ASME B18.2.1, standard semi-finished machine bolts as shown or required. Nuts shall be standard size unless noted otherwise and shall be per ASTM A563.

D. Lag screws: Standard hex lag screws per ANSI/ASME B18.2.1.

E. Wood screws: Standard wood screws per ANSI/ASME B18.6.1.

F. Framing hardware: Fabricated sheet metal timber framing connectors shall be manufactured from painted or galvanized G90 steel by Simpson Strong-Tie (connectors specified on drawings are per Simpson Strong Tie, USP Lumber Connectors, or approved equivalent. Connectors shall be at least 16 gauge material, (1/8 inch plate materials where welded), unless otherwise noted, punched for nailing. All heavy hardware to be fabricated from A36 steel per Division 05, Metals.
   1. Nails and nailing shall conform to the manufacturer’s instructions with a nail provided for each punched hole. Nails to be used with framing accessories are subject to the requirements specified in this Section for fasteners and anchors.

2.4 SOURCE QUALITY CONTROL

A. The Testing Agency, as specified in the Article QUALITY ASSURANCE, will perform testing for moisture content of all lumber at time of fastener installation.

B. The Testing Agency will submit reports as specified in Sections 1 through 14 and Division 01.

PART 3 EXECUTION

3.1 REQUIREMENTS FOR STRUCTURAL FRAMING

A. General
1. Refer to drawings for layouts, notes and details, provide framing as required; comply with governing building code requirements.
2. Provide framing to achieve true alignments as surfaces receiving finish materials.
3. It shall be the responsibility of the Contractor to provide and install all wood blocking, furring strips, or grounds detailed or required to provide anchorage for all finishes, accessories, fixtures, etc. as required to complete all work. All blocking and/or backing shall be securely bolted or otherwise anchored in place.
4. Provide and install all structural framing, blocking, fasteners, brackets, clips, etc. as required to complete work specified in the Construction Documents.

3.2 STRUCTURAL SHEATHING

A. General
1. Sheathing nailing shall be as required on the drawings. Do not overdrive (Do not break skin of sheathing face sheet). Over driving will be cause for rejection.
2. Pneumatic nailing devices shall be adjustable so that nail heads do not penetrate skin of sheathing. Contractor shall submit equipment and nails for review prior to use. Refer to PART 2 for other nailing requirements.

3.3 ROUGH HARDWARE

A. General: Nails, spikes, screws, fabricated sheet metal anchors, ties, hangers and any other materials shown or required for the attachment of wood to concrete and wood to steel and wood to wood shall be furnished and installed as part of this work.

B. Framing Nailing: All framing nailing shall conform to minimum requirements of the Building Code, and with details shown on the drawing.

C. Bolts, Lag Screws and Washers:
1. Bolts in wood shall be machine bolts unless otherwise noted and shall be of such length that the bearing length of the treads does not exceed ¼ of the full bearing length in the member holding the treads. Bolt holes in wood shall be 1/32" oversized. Bolt holes for sill plates may be 1/16" maximum oversize.

Holes in steel shall be 1/16" oversize. See Section 3.1 for anchor bolts at sill plates and ledgers.

2. Provide square plate or malleable iron washer and nut at head where bearing is against wood; cut washer under nut where it is against steel. Washer will not be required under head of carriage bolts. Provide malleable iron washers where exposed.
3. All nuts shall be tightened when placed and retightened at completion of the job or immediately before closing with final construction.
4. Lag screws shall be screwed (not driven) into place. Drill pilot hole to 70% of shank diameter. Drill clearance hole to full shank diameter and depth of unthreaded screw length.

D. Wood Screws: Minimum penetration is 10 diameters unless noted otherwise. Where fastening hardwood timber species or where wood tends to split, provide pilot hole 70% of screw shank diameter.

3.4 TOLERANCES

A. Framing Members: 1/4 inch from true position, maximum.

B. Variation from Plane (Other than Floors): 1/8 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum. Provide framed substrates meeting requirements for application of finishes specified in other sections.

C. Exposed surfaces shall be free from dents and tool marks, unsanded rough or torn faces and corners, and other defects.

3.5 FIELD QUALITY CONTROL

A. The Testing Agency, as specified in the Article QUALITY ASSURANCE, will perform the following tests and submit reports as specified in Sections 1 through 14 and Division 01:
1. Moisture content of all lumber at time of close-in.

3.6 ADJUSTING

A. Replace all defective work at Contractor's expense.

B. Replace defective or damaged work with conforming work.

C. Correct defects using means that will not injure the materials.

D. Replace defective or damaged work which cannot be corrected in the field with new work, or return defective items to the shop for repair.

E. Repair or replace framing lumber sagged, twisted or warped due to shrinkage from excessive moisture content at time of installation, or from other causes.

F. Adjust to meet specified tolerances.

G. Architect/Engineer shall review all proposals for the repair or replacement of damaged, defective, or missing work.

H. Pay expenses incurred by Owner for Architect/Engineer's costs for (re-)design and obtaining approvals of Authorities Having Jurisdiction (AHJ) necessitated by incomplete, inefficiently scheduled, improperly performed, defective or nonconforming work.

I. Pay expenses due to re-testing and re-inspection necessitated by incomplete, inefficiently scheduled, improperly performed, defective or nonconforming work.

3.7 CLEANING AND PROTECTION

A. Clean all surfaces upon completion of erection, leave free of grime and dirt. Remove unused materials, tools, equipment, and debris from the premises and leave surfaces broomed clean.

B. Waste Disposal: Comply with the requirements of pertinent sections of Sections 1 through 14 and Division 01 specifying cleaning and disposal.
   1. Comply with applicable regulations.
   2. Do not burn scrap on project site.
   3. Do not burn scraps that have been pressure treated.
   4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.

C. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.

D. Prevent sawdust and wood shavings from entering the storm drainage system.

E. Protect work from damage by subsequent operations.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 6 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Rough Carpentry specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 06 40 23

INTERIOR ARCHITECTURAL WOODWORK

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 SUMMARY

A. See Section 01 35 91 for Historic Treatment Procedures.
B. Section Includes:
1. Interior standing or running trim.
2. Interior frames and jambs.
3. Interior ornamental work.
4. Interior built in cabinetry.
5. Interior built in librarian's desk.

1.2 SUBMITTALS

A. Section 5-3.03 Submittals.

B. Plan to retain damaged materials on site that are to be repaired.

1.3 QUALITY ASSURANCE

A. Forest certification by a Forest Stewardship Council accredited certification body.

B. Quality Standard: WIC.

1.4 SCHEDULING

A. Sections 1 through 14 applicable requirements.

B. Schedule Work to coincide with repair and new construction.

C. Coordinate utility and building service interruptions with the Engineer and utility providers.
1. Schedule tie-ins to existing systems to minimize disruption.
2. Coordinate Work to ensure fire sprinklers, fire alarms, smoke detectors, emergency lighting, exit signs and other life safety systems remain in full operation in occupied areas.

1.5 PROJECT CONDITIONS

A. Conduct the work to minimize interference with adjacent trades in occupied building areas.

B. Protect and stabilize damaged historic interior woodwork, cabinetry, desks, doors and windows.
C. Lead paint has been identified review report provided by the Engineer.

PART 2 PRODUCTS

2.1 MATERIALS

A. Wood Species for Opaque or Semi-Opaque Finish: Any closed-grain hardwood, commonly used for this purpose in this area.

B. Composite Wood Products: Made without urea formaldehyde.

C. Interior Woodwork Grade: WIC Custom.

D. Interior Standing and Running Trim for Opaque or Semi-Opaque Finish:

1. Grade: WIC Custom.
2. Wood Species: Any closed-grain hardwood, commonly used for this purpose in this area.

E. Interior Frames, Jambs and Cabinetry for Opaque or semi-Opaque Finish:

1. Grade: WIC Custom.
2. Species: Any closed-grain hardwood, commonly used for this purpose in this area.

F. Interior Ornamental Work and Librarian's Desk for Opaque or semi-Opaque Finish:

1. Grade: Custom.
2. Wood Species: Any closed-grain hardwood.

G. Shop Finishing:

1. Grade: Same grade as woodwork.
2. Grade: Custom for opaque or semi-Opaque finish.
3. Extent: All replacement or removed to be repaired trim or ornamental work may be shop finished. All doors and frames to be field finished.

PART 3 EXECUTION

3.1 PREPARATION

A. Erect, protect and maintain temporary protective measures for existing interior wood work during the construction process.

B. Prevent moisture or other environmental conditions from causing additional damage to existing interior woodwork.

C. Prepare repaired woodwork to receive new finishes as part of the repair and restoration process.

D. Coordinate with the Engineer identified lead paint or stain concerns.

E. Replacement woodwork as part of the repair and restoration process to match existing woodwork.

3.2 SALVAGE REPAIR AND PROTECTION REQUIREMENTS

A. Salvage and repair existing woodwork over replacement as part of the restoration process. Coordinate with the Engineer to determine if replacement is acceptable over repair.

B. Tag components to be removed and salvaged during the repair process or construction work process to identify where it came from. Returned to its original location.

C. Protect all existing woodwork to be remain, to be salvaged and repaired from demolition operations.

D. Carefully remove building debris and carefully store woodwork items to be salvaged.

E. Deliver salvaged items not used to the City. Obtain signed receipt from City.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 6 bid item, provide cost break out for cabinetry and librarians desk repair work, includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Interior Architectural Woodwork specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 07 01 50

PREPARATION FOR RE-ROOFING

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Roof tear-off.
2. Roof re-cover preparation.
3. Coordination and repair of plywood sheathing and structural connection as noted.
4. Observation and reporting of project conditions.

1.2 QUALITY ASSURANCE

A. Installer Qualifications: Installer of new membrane roofing system.

B. Reroofing Conference: Conduct conference at the project site.

C. Proof of Construction Waste Management Plan (CWM) in accordance with CGBS Code Section 4.408.2.

1.3 PROJECT CONDITIONS

A. Building will be unoccupied at the time of reroofing, protect existing interior from weather intrusion.

B. Protect building to be reroofed, adjacent buildings, walkways, site improvements, exterior plantings, and landscaping from damage or soiling from reroofing operations, including from weather.

C. Protect the existing roof from overloading of materials. The contractor shall survey the ceiling below for plaster cracking prior to work commencement. The contractor shall repair any cracking as result of the reroof working at their own expense.

D. Weather Limitations: Proceed with reroofing preparation only when existing and forecasted weather conditions permit Work to proceed without water entering into existing roofing system or building.

PART 2 - PRODUCTS

2.1 PLYWOOD SUBSTRATE and STRUCTURAL REPAIRS

A. Repair plywood substrate in accordance with the structural drawings.

B. Repair or provide structural connections in accordance with the structural drawings.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect existing structure and all areas that are scheduled for repair.

B. Maintain roof drains in functioning condition to ensure roof drainage at end of each workday. Prevent debris from entering or blocking roof drains and conductors. Use roof-drain plugs specifically designed for this purpose. Remove roof-drain plugs at end of each workday, when no work is taking place, or when rain is forecast.

C. Verify that rooftop utilities and service piping have been shut off before commencing work.

3.2 ROOF TEAR-OFF

A. General: Notify Engineer each day of extent of roof tear-off proposed. Notify adjacent property owners' work and schedules prior to any work.

B. Roof Tear-Off: Remove existing roofing membrane and other membrane roofing system components down to the deck.

3.3 ROOF RE-COVER PREPARATION

A. Remove blisters, ridges, buckles, and other substrate irregularities from existing roofing membrane that inhibit new recover boards from conforming to substrate.

1. Remove loose roofing with a power broom.
2. Broom clean existing substrate.
3. Any debris that falls below existing sheathing shall be removed from the attic space.
4. Coordinate with Engineer to schedule times for tests and inspections before proceeding with repairs or installation of new materials.
5. Verify that existing substrate is dry before proceeding with work.
6. Remove materials that are wet or damp.
7. Provide additional uplift securement for existing roof sheathing with new screws and plates applied to each roof zone as directed by the Engineer.

3.4 EXISTING BASE FLASHINGS

A. Remove existing base flashings around parapets, curbs, walls, and penetrations.

1. Clean substrates of contaminants such as asphalt, sheet materials, dirt, and debris.

B. Do not damage metal counterflashings that are to remain. Replace metal counterflashings damaged during removal with counterflashings of same metal, weight or thickness, and finish.

3.5 DISPOSAL

A. Collect and place demolished materials in containers. Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Transport demolished materials off City owned property and legally dispose of them.

C. Complete and maintain for the Engineer a Construction Waste Management Plan (CWM) in accordance with CGBS Code Section 4.408.2.

PART 4 - MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 7 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Reroof Preparation specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

SECTION 07 11 00

WATERPROOFING

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 - GENERAL

1.0 PROJECT INFORMATION:

A. The Historic Goodman Library Earthquake Repair project has waterproofing on the top edges of the stone parapets and on the top surfaces of openings in the stone parapets. The existing waterproofing was damaged and needs to be repaired and/or replaced.

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Sections 1 through 14 and Division 01 specification Sections, apply to this Section.

B. Extent of waterproofing work is shown on drawings. Similar work used as exposed finish is excluded by definition and, if required, is specified as a special coating or other appropriate category.

1.2 SUBMITTALS

A. General: Submit to the Engineer in according with the Conditions of Contract and Sections 1 through 14 and Division 01 Specification Sections.

B. Product data including manufacturer's specifications, surface preparation and application instructions, applicable technical bulletins, material safety data sheets, standard details and general recommendations for each waterproofing material and any accessory material required. Include data substantiating that materials are recommended by manufacturer for applications indicated and comply with requirements.

C. Warranty period for applicator and manufacturer is 5 years after date of substantial completion.

1.4 QUALITY ASSURANCE

A. General: For each type of work, obtain primary materials from single manufacturer, to greatest extent possible. Provide secondary materials only as recommended by manufacturer of primary materials.

B. Waterproofing manufacturer: Provide primary waterproofing products by one of the following:

1. Thoroseal – BASF Corp.

2. Drylok – UGL Corp.

3. Zinsser – Rustoleum Co.

4. Or approved equal.

1.5 PROJECT CONDITIONS

A. Substrate: Proceed with work of this section only after substrate construction work has been completed.

B. Weather: Proceed with work of this section only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's recommendations.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: provide waterproofing materials which comply with the following general standards, or provide other similar products which are certified in writing by manufacturer of primary waterproofing materials to be superior in performance for application indicated.

B. Waterproofing Materials:

1. Applied to stone masonry, paintable waterproofing for horizontal surfaces as indicated on drawings.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean substrate of projections and substances detrimental to work; comply with recommendations of prime materials manufacturer.

B. Verify compatibility with existing waterproof coating, remove loose material and leave compatible tight material as recommended by prime materials manufacturer.

C. Fill voids (if any) and seal as recommended by prime materials manufacturer, with particular attention at stone mortar joints.

D. Prime substrate as recommended by prime materials manufacturer.

E. Protection of Other Work: Do not allow liquid and mastic compounds to enter and clog drains and conductors. Prevent spillage and migration onto other surfaces of work, by masking or otherwise protecting adjoining work.

3.2 INSTALLATION

A. General: Comply with manufacturer's instructions, except where more stringent requirements are shown or specified, and except where project conditions require extra precautions or provisions to ensure satisfactory performance of work.

1. Retain empty containers of fluid and mastic compounds, to aid in computing actual average thicknesses of applications.

B. Fluid Applied Waterproofing:

1. The entire fluid applied waterproofing application shall comply with manufacturer's instructions, technical bulletins, representative's field directions and approved specifications. In case of conflict, use most demanding requirements and submit conflict to the Engineer for resolution.

2. Verify that the Work of other trades that must precede waterproofing work has been completed, clean and tested ready to receive waterproofing.

3. Report in writing to the Contractor and the Engineer if any deficiencies or discrepancies between actual field conditions and the contract documents exist.

4. Do not begin waterproofing application until conditions have been corrected or are acceptable to the field representative. Beginning the installation shall constitute that the installer has accepted the existing substrate.

3.3 PROTECTION AND CLEANING

A. As soon as waterproofing, is completed, protect per manufacturer's instructions. Do not allow traffic of any type over unprotected membrane.

B. Police work area daily or more often as necessary. Transfer release paper, scraps, roll cores, product containers, unused materials and other debris to containers to identified areas on construction site. Remove masking materials and stains from exposed surfaces and correct any other damage caused by waterproofing installation. When the Work of this section has been completed and accepted, remove all trash, debris, surplus materials, tools and equipment from the site.

3.4 PERFORMANCE REQUIREMENTS

A. It is required that waterproofing be watertight and not deteriorate in excess of limitation published by manufacturer.

B. Clean up as required and repair any damage caused by any spilled, excess, or misapplied materials.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 7 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Waterproofing specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 07 54 23

THERMOPLASTIC-POLYOLEFIN ROOFING (TPO)

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Sections 1 through 14 and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Existing single ply roofing system is 20+ years old and was damaged during the recent earthquake. Provide option to the Engineer to repair existing or to provide a new roof as required to certify the roof will meet guarantee stipulated in Section 1.9.

B. This Section includes the following:

1. Mechanically fastened membrane roofing system.
2. Base sheet.
3. Sheathing paper.
4. Substrate board.

C. Related Sections include the following:

1. Preparation for Re-roofing Section 070150.

2. Sheet Flashing and Trim for metal roof penetration flashings, flashings, and counterflashings.

1.3 DEFINITIONS

A. Roofing Terminology: Refer to ASTM D 1079 “Terminology Relating to Roofing and Waterproofing”; glossary of NRCA's "The NRCA Roofing and Waterproofing Manual"; and the Roof Consultants Institute “Glossary of Roofing Terms” for definition of terms related to roofing work in this Section.

B. Sheet Metal Terminology and Techniques: SMACNA Sheet Metal Manual.

1.4 PERFORMANCE REQUIREMENTS

A. General: Provide installed roofing membrane and Flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing membrane manufacturer based on testing and field experience.

C. Jobsite Safety: Execute all operations and provide a safe work environment in accordance to OSHA standards and regulations. This requirement applies to all contractor personnel, associated subcontractors, workers in other trades, and jobsite visitors.

1. Follow all industry fire prevention guidelines for storage of materials, staging areas, roof access, and application means and methods.
2. Any applicable local fire codes supersede industry guidelines.

D. Roofing System Design: Provide a membrane roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE 7.

1. Field-of-Roof Uplift Pressure: 90 lbf/sq. ft.

2. Fire/Windstorm Classification: Class 1A-90.

1.5 SUBMITTALS

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

B. Samples for Verification: For the following products:

1. Manufacturer’s standard sample size of sheet roofing, of color specified, including T-shaped side and end lap seam.
2. Manufacturer’s standard sample size of metal termination bars.
3. Manufacturer’s standard sample size of battens.
4. Manufacturer’s standard sample size of base sheet.
5. Manufacturer’s standard sample size of substrate board.
6. Two fasteners or each type, length and finish used for complete roofing installation.

C. Installer Certificates: Signed by roofing system manufacturer certifying that Installer is approved, authorized, or licensed by manufacturer to install roofing system.

D. Manufacturer Certificates: Signed by roofing manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.

1. Submit evidence of meeting performance requirements.

E. Qualification Data: For Installer and manufacturer.

F. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for components of roofing system.

G. Research/Evaluation Reports: For components of membrane roofing system.

H. Maintenance Data: For roofing system to include in maintenance manuals.

I. Warranties: Special warranties specified in this Section.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's warranty.

B. Manufacturer Qualifications: A qualified manufacturer that has UL listing or FMG approval for membrane roofing system identical to that used for this Project.

C. Testing Agency Qualifications: An independent testing agency with the experience and capability to conduct the testing indicated, as documented according to ASTM E 548.

D. Moisture Survey:

1. Submit prior to installation, results of a non-destructive moisture test of roof system completed by approved third party. Utilizing one of the approved methods:

a. Infrared Thermography
b. Nuclear Backscatter

E. Source Limitations: Obtain all components from single source roofing manufacturer.

F. Fire-Test-Response Characteristics: Provide membrane roofing materials with the fire-test-response characteristics indicated as determined by testing identical products per test method below by UL, FMG, or another testing and inspecting agency acceptable to authorities having jurisdiction. Materials shall be identified with appropriate markings of applicable testing and inspecting agency.

1. Exterior Fire-Test Exposure: Class A; ASTM E 108, for application and roof slopes indicated.
2. Fire-Resistance Ratings: ASTM E 119, for fire-resistance-rated roof assemblies of which roofing system is a part.

G. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site. Comply with requirements for preinstallation conferences in Sections 1 through 14 and Division 01 Section "Project Management and Coordination." Review methods and procedures related to roof deck construction and roofing system including, but not limited to, the following:

1. Meet with Engineer, Engineer's representative, City's insurer if applicable, testing and inspecting agency representative, roofing installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Require that all complimentary trades be present at conference. Including, but not limited to; electrical, plumbing, HVAC, and framing contractors.
7. Review Flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
8. Review governing regulations and requirements for insurance and certificates if applicable.
9. Review temporary protection requirements for roofing system during and after installation.
10. Review roof observation and repair procedures after roofing installation.

H. Preinstallation Conference: Conduct conference at Project site. Comply with requirements in Sections 1 through 14 and Division 01 Section "Project Management and Coordination." Review methods and procedures related to roofing system including, but not limited to, the following:

1. Meet with Engineer, Engineer's representative, City's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review Flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that will affect roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

   1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials and place equipment in a manner to avoid permanent deflection of deck.

1.8 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.9 GUARANTEE

A. Provide manufacturer's system guarantee.

   1. Single-Source special warranty includes roofing membrane, Flashings, roofing membrane accessories, fasteners, walkway products, and other single-source components of roofing system marketed by the manufacturer.

   2. Warranty Period for New Roof: 20 years from date of Substantial Completion.

   3. Warranty Period for Roof Repair: 10 years from date of Substantial Completion.

B. Installer’s Guarantee: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering Work of this Section, including all components of roofing system such as roofing membrane, Flashing, fasteners, cover boards, substrate boards, vapor retarders, roof pavers, and walkway products, for the following warranty period:

   1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Products shall be of a single source.

B. Basis of Design: Johns Manville Roofing Systems

C. Equivalent products include: Verisco, Verisweld TPO.

D. Submit other products for acceptance at bid opening.

2.2 THERMOPLASTIC POLYOLEFIN ROOFING MEMBRANE

A. Fabric-Reinforced Thermoplastic Polyolefin Sheet: ASTM D 6878, uniform, flexible sheet formed from a thermoplastic polyolefin, internally fabric or scrim reinforced. Product: JM TPO

1. Thickness: 60 mils (1.5 mm), nominal.
2. Color: White

2.3 AUXILIARY MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with membrane roofing.

1. Liquid-type auxiliary materials shall meet VOC limits of authorities having jurisdiction.
2. Liquid-type auxiliary materials classified as No VOC.

B. Sheet Flashing: Manufacturer's sheet flashing of same material, type, reinforcement, thickness, and color as sheet membrane.

C. Sheet Flashing: Manufacturer's unreinforced sheet flashing of same material as sheet membrane.

D. Bonding Adhesive: Manufacturer's standard water based bonding adhesive for membrane, and solvent-based bonding adhesive for Flashings.

E. Slip Sheet: Manufacturer's recommended slip sheet, of type required for application.

F. Metal Termination Bars: Manufacturer's standard predrilled stainless-steel or aluminum bars, with anchors.

G. Metal Battens: Manufacturer's standard aluminum-zinc-alloy-coated or zinc-coated steel sheet, prepunched.

H. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening membrane to substrate, and acceptable to membrane roofing system manufacturer.

I. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, termination reglets, cover strips, and other accessories.

2.4 BASE-SHEET MATERIALS

A. Base Sheet: ASTM D 4601, Type II, UL Class G2 rated, nonperforated, asphalt-impregnated and -coated, glass-fiber sheet, dusted with fine mineral surfacing on both sides.

2.5 SHEATHING PAPER

A. Sheathing Paper: Red-rosin type, minimum 3 lb/100 sq. ft. (0.16 kg/sq. m).

2.6 SUBSTRATE BOARD

A. Substrate Board: ASTM C 1177/C 1177M, glass-mat, water-resistant gypsum substrate, 1/4 inch (6 mm) thick minimum. Product: Securock by Johns Manville.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening substrate panel to roof deck.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with the following requirements and other conditions affecting performance of roofing system:

1. Verify that roof openings and penetrations are in place and set and braced and that roof drains are securely clamped in place.

2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations.

3. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch (1.6 mm) out of plane relative to adjoining deck.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 RE-ROOF PREPARATION

A. See Section 070150 Preparation for Re-roofing Section for additional information.

B. Remove all roofing membrane, surfacing, coverboards, insulation, fasteners, asphalt, pitch, adhesives, etc.

   1. Remove an area no larger than can be re-roofed in one day.

C. Tear out all Flashings, counterflashings, pitch pans, pipe flashings, vents and like components necessary for application of new membrane.

D. Remove abandoned equipment curbs, skylights, smoke hatches, and penetrations.

   1. Install decking to match existing as directed by Owner's Representative.

E. Raise, (disconnect by licensed craftsmen, if necessary) all HVAC units and other equipment supported by curbs to conform with the following:

   1. Modify curbs as required to provide a minimum 8" Flashing height measured from the surface of the new membrane to the top of the flashing membrane.
   2. Nail top of flashing and install new metal counterflashing prior to re-installation of unit.

F. Immediately remove all debris from roof surface. Demolished roof system may not be stored on the roof surface.

G. Proceed with installation only after unsatisfactory conditions have been corrected.

3.4 SUBSTRATE BOARD INSTALLATION

A. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.

   1. Fasten substrate board to top flanges of steel deck according to recommendations in FMG's "Approval Guide" for specified Windstorm Resistance Classification.

2. Fasten substrate board to top flanges of steel deck to resist uplift pressure at corners, perimeter, and field of roof according to roofing system manufacturer's written instructions.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.5 SHEATHING PAPER INSTALLATION

A. Loosely lay sheathing paper in a single layer over all wood deck areas, side and end lapping each sheet a minimum of 2 inches and 6 inches, respectively.

1. Seal side and end laps with tape.

2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.6 BASE-SHEET INSTALLATION

A. Install one lapped base sheet course and mechanically fasten to substrate according to roofing system manufacturer's written instructions.

1. Enhance fastening rate in perimeter and corner zones according to code or manufacturer, whichever is more stringent.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.7 MECHANICALLY FASTENED ROOFING MEMBRANE INSTALLATION

A. Install roofing membrane specification Johns Manville ST6RM, or previously approved equivalent, over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing membrane and allow to relax before installing.

B. Start installation of roofing membrane in presence of roofing system manufacturer's technical personnel.

C. Accurately align roofing membranes and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

D. Mechanically fasten roofing membrane securely at terminations, penetrations, and perimeter of roofing.

E. Always install membrane laps perpendicular to the steel deck flutes. “Picture Frame” installation method is not permitted.

F. Apply roofing membrane with side laps shingled with slope of roof deck where possible.

G. Seams: Clean seam areas, overlap roofing membrane, and hot-air weld side and end laps of roofing membrane according to manufacturer's written instructions to ensure a watertight seam installation.

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roofing membrane.
2. Verify field strength of seams a minimum of twice daily and repair seam sample areas.

   a. Remove and repair any unsatisfactory sections before proceeding with Work.

3. Repair tears, voids, and lapped seams in roofing membrane that do not meet requirements.

H. Spread sealant or mastic bed over deck drain flange at deck drains and securely seal roofing membrane in place with clamping ring.

I. In-Splice Attachment: Secure one edge of roofing membrane using fastening plates or metal battens centered within membrane splice and mechanically fasten roofing membrane to roof deck. Field-splice seam.

J. Through-Membrane Attachment: Secure roofing membrane using fastening plates or metal battens and mechanically fasten roofing membrane to roof deck. Cover battens and fasteners with a continuous cover strip.

K. Install roofing membrane and auxiliary materials to tie in to existing roofing.

L. Proceed with installation only after unsatisfactory conditions have been corrected.

3.8 FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories and adhere to substrates according to membrane roofing system manufacturer's written instructions.

B. Apply solvent-based bonding adhesive to substrate and underside of sheet flashing at required rate and allow to partially dry. Do not apply bonding adhesive to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with sheet flashing.

D. Clean seam areas and overlap and firmly roll sheet flashings into the adhesive. Weld side and end laps to ensure a watertight seam installation.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

F. Proceed with installation only after unsatisfactory conditions have been corrected.

3.9 FIELD QUALITY CONTROL

A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion and submit report to Owner's representative.

1. Notify Owner's representative or Owner 48 hours in advance of date and time of inspection.

B. Repair or remove and replace components of membrane roofing system where test results or inspections indicate that they do not comply with specified requirements.

C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.10 PROTECTING AND CLEANING

A. Protect membrane roofing system from damage and wear during remainder of construction period. When remaining construction will not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Owner's representative and Owner.

B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements, repair substrates, and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

PART 4 MEASUREMENT AND PAYMENT

D. The contract unit lump sum price paid for this Division 7 bid item for new roof and for repair of existing roof option, includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Thermoplastic-Polyolefin Roofing specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 07 71 23

SHEET METAL SCUPPER AND DOWNSPOUT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof scupper and downspout sheet metal fabrications.
2. Roof scupper debris guard.

1.2 SUBMITTALS

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

B. Shop Drawings: Show installation layouts of sheet metal scupper and downspout, including plans, elevations, and keyed details. Distinguish between shop- and field-assembled work. Provide documentation of existing scupper and downspout installation for comparison to proposed repair.

1. Include details for forming, joining, supporting, and securing sheet metal scupper and downspout. Repair of historic building details to match existing conditions and period the building was constructed.

C. Warranty: Sample of warranty per Sections 1 through 14 and Division 01.

D. 5-3.03 Submittals.

1.3 QUALITY ASSURANCE

A. Sheet Metal Scupper and Downspout Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless more stringent requirements are specified or shown on Drawings.

B. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Build mockup of typical roof gutter including downspout include supporting construction cleats, seams, supporting attachments and accessories.

C. Pre-installation Conference: Coordinate the conference with the Engineer.

PART 2 - PRODUCTS

2.1 SHEET METALS

A. General: Protect mechanical and other finishes on exposed surfaces from damage by applying a strippable, temporary protective film before shipping.

B. Metallic-Coated Steel Sheet: Restricted flatness steel sheet, metallic coated by the hot-dip process and prepped for field painting.

1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.
2. Surface: Mill phosphatized for field painting.
3. Color: As selected by the Owner and the Architect.

C. Scupper Debris Guard: Standard Design – galvanized or black powder coated expanded metal wire mesh.

2.2 MISCELLANEOUS MATERIALS

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 scupperr and downspout installation and recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.

B. Fasteners: Wood screws, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads recommended by manufacturer/fabricator.

1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.

   a. Exposed Fasteners: High-strength stainless-steel rivets for sheet metal fabrication.
   b. Blind Fasteners: High-strength stainless-steel rivets suitable for metal being fastened.
   c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
2. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Hot-dip galvanized steel according to ASTM A 153/A 153M or ASTM F 2329 or Series 300 stainless steel.

C. Solder:
1. For Zinc-Coated (Galvanized) Steel: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead or Grade Sn60, 60 percent tin and 40 percent lead.

D. Elastomeric Sealant: ASTM C 920, elastomeric polymer sealant; low modulus; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.

E. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type expansion joints with limited movement.

2.3 FABRICATION, GENERAL

A. General: Custom fabricate sheet metal gutter and downspout to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, geometry, metal thickness, and other characteristics of item indicated. Fabricate items at the shop to greatest extent possible.

1. Obtain field measurements for accurate fit and shape before shop fabrication.
2. Form sheet metal scuper and downspout without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces exposed to view.

B. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant.

C. Expansion Provisions: Where lapped expansion provisions cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.

D. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.

E. Seams: Fabricate nonmoving seams with flat-lock seams. Tin edges to be seamed, form seams, and solder.

F. Seams: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.

2.4 ROOF DRAINAGE SHEET METAL FABRICATIONS

A. Downspouts: Repair or fabricate round downspouts complete with mitered elbows. Furnish with metal hangers, from same material as downspouts, and anchors.

1. Hanger Style: Exterior strap, design submitted with shop drawings.
2. Fabricate from the following materials:
   a. Galvanized Steel: 0.022 inch (0.56 mm) thick.

B. Parapet Scuppers: Fabricate scuppers of dimensions required to match existing with closure flange trim to exterior, 4 inch minimum wide wall flanges to interior, and base extending 4 inches beyond cant or tapered strip into field of roof. Fabricate from the following materials:

1. Galvanized Steel: 0.028 inch (0.71 mm) thick.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. General: Anchor sheet metal scupper and downspout and other components of the Work securely in place, with provisions for thermal and structural movement so that completed sheet metal shall not rattle, leak, or loosen, and shall remain watertight. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal system.

1. Install sheet metal scupper and downspout true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and sealant.
2. Install sheet metal to fit substrates and to result in watertight performance.
3. Install exposed sheet metal without excessive oil canning, buckling, and tool marks.

B. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet.

C. Fastener Sizes: Use fasteners of sizes that will penetrate wood not less than 1-1/4 inches for nails and not less than 3/4 inch for wood screws.

D. Seal joints as shown and as required for watertight construction.

E. Soldered Joints: 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, except reduce pre-tinning where pre-tinned surface would show in completed Work.

1. Do not solder metallic-coated steel sheet.
2. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

3.2 ROOF DRAINAGE SYSTEM INSTALLATION

A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.

B. Downspouts: Join sections with 1-1/2-inch telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls. Locate hangers at top and bottom and at approximately 60 inches o.c. in between.

C. Parapet Scuppers: Install scuppers where indicated through parapet. Continuously support scupper, set to correct elevation, and seal flanges to interior wall face, over cants or tapered edge strips, and under roofing membrane.

3.3 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturers' written installation instructions.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 7 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Sheet Metal Scupper and Downspout specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 07 92 00

JOINT SEALANTS

PART 1 - GENERAL

1.1 PRECONSTRUCTION TESTING

A. Preconstruction compatibility and adhesion testing.

B. Preconstruction field-adhesion testing.

1.2 WARRANTY

A. Installer Warranty: Five years.

1.3 MATERIALS

A. VOC Content of Interior Sealants: Shall meet CalGreen 2013 requirements.

1. Architectural Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

B. Stain Test: ASTM C 1248.

C. Suitability for Contact with Food: Comply with 21 CFR 177.2600, where applicable.

D. Colors to be selected from manufacturer's standard color range.

1.4 SUBMITTAL

A. Provide (4) copies of material data sheets, Color palette for selection.

1.5 JOINT SEALANTS

A. Mildew-Resistant Silicone Joint Sealant:

1. Type: Single component.
2. Grade: non-sag.
3. Class: 100/50.
4. Uses Related to Exposure: Traffic.

B. Immersible Urethane Joint Sealant:

1. Type: Single component.
2. Grade: non-sag.
3. Class: 50.
4. Uses Related to Exposure: Traffic and non-traffic.

C. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex.

D. Solvent-Release-Curing Joint Sealant: Butyl rubber.

E. Preformed Joint Sealant: Preformed silicone.

F. Acoustical Joint Sealant: Non-sag, paintable, non-staining latex.

G. Joint-Sealant Backing: Cylindrical.

1.6 FIELD QUALITY CONTROL

A. Field-adhesion testing.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 WORKMANSHIP

A. Surfaces to receive sealant shall be clean and tight.

B. Install in clean straight lines with no gaps.

C. Provide tight adhesion to surface sealant applied.

PART 4 - MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 4 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Joint Sealants specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

DIVISION 8 - OPENINGS

SECTION 08 01 52

HISTORIC TREATMENT OF WOOD WINDOWS & DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Window and door member repair and patching.
2. Wood window and door unit removal and reinstallation.
3. Reglazing.
4. Window and door hardware repair.
5. Weather stripping.

1.2 SUBMITTALS

B. Statement of Qualifications: For historic treatment specialists.

C. Inventory of windows and doors, and schedule of repairs.

1.3 QUALITY ASSURANCE

D. Historic Treatment Specialist Qualifications: A firm or individual experienced in historic treatment of windows and doors similar in material, design, and extent, whose work has resulted in construction with a record of successful in-service performance.

1. Supervision: Require that an experienced supervisor be at the Project site or at the shop during times that historic treatment of wood windows and doors is in progress.

E. Mockups: Prepare mockups using existing windows and doors to demonstrate historic treatment methods and procedures for aesthetic effects and qualities of materials and execution.

1. Prepare mockups.
2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

F. WIC Quality Standard: Comply with WIC's "Manual of Millwork" for construction, finishes, grades of wood windows, and other requirements.

G. California VOC requirements. All products shall meet current regulatory VOC requirements.

1.4 SCOPE OF REPAIR

A. Inspection and assessment.

B. Operability of windows and doors.

C. Repair of cracked, gouged or damaged wood – not the replacement of complete window or door units.

D. Repair and replacement of any damaged or broken glazing.

E. Repair and refinish any damaged wood surface.

PART 2 - PRODUCTS

2.1 WOOD PATCHING MATERIALS

A. Wood Pretreatment: Ready-to-use product designed for hardening and sealing soft fibers of wood materials that have deteriorated due to weathering and exposure and designed specifically to enhance the bond of wood patching compound to existing wood.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
2. Products: Subject to compliance with requirements, provide one of the following:

a. Abatron, Inc.; Liquidwood.
b. Advanced Repair Technology; Primatrate.
c. Wood Care Systems; Liquid TIMBR.

B. Wood Patching Compound: 2-part epoxy-resin wood compound with a 10- to 15-minute cure at 70 deg F (21 deg C), in knife grade formulation and recommended by manufacturer for type of wood repair indicated. Compound shall be designed for filling damaged wood materials that have deteriorated due to weathering and exposure. Compound shall be capable of filling deep holes and capable of spreading to feather edge.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
2. Products: Subject to compliance with requirements, provide one of the following:

a. Abatron, Inc.; Liquidwood with WoodEpox.
b. Advanced Repair Technology; Primatrate with Flex-Tec HV.
c. Gougeon Brothers, Inc.; West System.
d. Polymeric Systems Inc.; Quickwood.
e. Wood Care Systems; Liquid TIMBR with TIMBR Flex.

2.2 GLAZING MATERIALS

A. Glass and Glazing Materials: Retain, Salvage and Reuse all existing undamaged glazing in historic wood window and door frames. Replace any damaged or broken glass in kind.

B. Glazing System: Provide oil-based glazing putty and glazing points.

2.3 REPAIR WINDOW AND DOOR HARDWARE

A. General: Verify operation and condition of existing window hardware consisting of sash balances, hinges, pulls, latches, and accessories for each window. Verify operation and condition of existing door hardware consisting of latchsets or locksets and hinges. Repaired windows and doors shall smoothly operate, tightly close, and securely latch or lock.

B. Repair and Refinish Existing Hardware: Remove window and door hardware and repair, clean and refinish as required.

2.4 WEATHER STRIPPING

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. National Guard Products, Inc.
2. Pemko Manufacturing Co., Inc.
3. Reese Enterprises, Inc.
4. Zero International, Inc.

C. Replaced Weather Stripping Seals: Shall comply with AAMA 701/702.

2.5 MISCELLANEOUS MATERIALS

A. Cleaning Materials:

1. Detergent Solution: Solution prepared by mixing 2 cups (0.5 L) of tetrasodium polyphosphate (TSPP), 1/2 cup (125 mL) of laundry detergent, 5 quarts (5 L) of 5 percent sodium hypochlorite bleach, and 15 quarts (15 L) of warm water for each 5 gal. (20 L) of solution required.
2. Mildewcide: Provide commercial proprietary mildewcide or a solution prepared by mixing 1/3 cup (0.08 L) of household detergent, 1 quart (0.95 L) of 5 percent sodium hypochlorite bleach, and 3 quarts (2.8 L) of warm water.

B. Adhesive: Wood adhesive with a 15- to 45-minute cure at 70 deg F (21 deg C), in gunnable formulation and recommended by adhesive manufacturer for exterior wood repair.

C. Fasteners: Provide bronze or brass fasteners compatible with window members, trim, hardware, anchors and other components.

1. Exposed Fasteners: If exposed fasteners are used, match existing fasteners.

2.6 WOOD WINDOW FINISHES

A. Windows: Provide -prime coat on all exposed wood surfaces.

B. Apply finish to exposed exterior and interior wood surfaces, including window trims.

1. Color: to match existing or as approved by Engineer.

2.7 WOOD DOOR FINISHES

A. Doors: Provide – stain/sealer coats on all exposed wood surfaces.

B. Apply finish to exposed exterior and interior wood surfaces, including door frames and trim.

1. Color: to match existing semi-transparent or solid body stain or as approved by Engineer.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect adjacent materials from damage caused by historic treatment of wood windows.

B. Clean existing wood windows of mildew, algae, moss, plant material, loose paint, grease, dirt, and other debris. Use bristle brush and mildewcide to kill mildew. After cleaning, rinse thoroughly with fresh water. Allow to dry before patching, repairing, or painting.

3.2 HISTORIC TREATMENT PROCEDURES, GENERAL

A. Window and Door Removal: Where sashes or windows or door and/or window or door components require removal, cover resultant openings with temporary enclosures so that openings are weathertight during repair period.

B. Identify removed windows, doors, sashes, frames and members with numbering system to ensure reinstallation in same location. Key windows, doors, sashes, frames

and members to Drawings showing location of each removed unit. Mark units in a location that will be concealed after reinstallation.

3.3 GLAZING

A. Remove cracked and damaged glass, including glazing materials, from openings.

B. Install glazing materials as specified herein.

3.4 WOOD WINDOW AND DOOR MEMBER REPAIR

A. Repair wood members where required.

1. Repair wood members by pretreating and filling with patching compounds or by replacing with new members spliced into existing wood members.
2. Repair windows and doors by splicing in replacement wood sections where deterioration is structural, including at meeting points of rails and meeting points of true stiles or muntins.

B. Repair by Pretreatment and Patching Compound:

1. Clean wood surfaces prior to consolidation treatment and patching.
2. If rotted or soft wood remains, remove down to sound wood according to patching manufacturer's written instructions.
3. Apply wood pretreatment to soft wood fibers to remain, complying with manufacturer's written instructions. Coat surface of wood with consolidation treatment by brushing, applying multiple coats until wood is saturated. Allow treatment to harden before filling void with patching compound.
4. Mix only as much patching compound as can be applied according to manufacturer's written instructions.
5. Apply patching compound to fill depressions, nicks, cracks, and other voids created by removed or missing wood. Apply compound in layers as recommended in writing by manufacturer until the void is completely filled. Sand patching compound smooth and flush and matching contour of existing wood member.
6. Clean spilled compound from adjacent materials immediately.

C. Repair by Wood Member Replacement: Custom fabricate new wood members to replace missing members or members deteriorated beyond repair. Either replace entire wood member or splice new wood member into existing member.

D. Cut out deteriorated or damaged sections of wood members and replace them by splicing replacement wood members into existing remaining wood members.

1. Anchor new wood members by nailing and adhesive.
2. Install wood members with concealed fasteners. Fill nail holes and touch up the finish to match surrounding wood finish.

E. Repair by Removing Window or Door Units: Where entire units, either sashes or complete window or door, are to be removed and restored, completely remove unit and

restore off-site. Repair entire window or door by patching or repairing members as specified for wood member patching.

1. Reglaze all units prior to reinstallation.

F. Reinstall restored units with new anchors into existing openings.

3.5 ADJUSTMENT

A. Adjust existing operating sashes and hardware to provide a tight fit at contact points and with weather stripping, and to provide smooth operation and a weathertight closure. Lubricate hardware and moving parts as necessary.

3.6 CLEANING AND PROTECTION

A. Protect window and door surfaces from contact with contaminating substances resulting from construction operations.

B. Monitor window and door surfaces adjacent to and below exterior stone masonry surfaces during construction for presence of dirt, scum, alkaline deposits, stains, or other contaminants. If contaminating substances contact window surfaces, remove contaminants immediately.

C. Clean exposed surfaces immediately after historic treatment of wood windows and doors. Avoid damaging coatings and finishes. Remove excess sealants, glazing and patching materials, dirt, and other substances.

D. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

PART 4 - MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 8 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Historic Treatment of Wood Windows and Doors specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

DIVISION 9 – FINISHES (INTERIOR FINISHES)

SECTION 09 20 00

HISTORIC PLASTER REPAIR

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings, photos and general provisions of Contract, including General and Supplementary Conditions and Sections 1 through 14 and Division 01 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

A. The Historic Goodman Library is a significant historic structure. All work shall be completed in such a way as to protect existing architectural features from damage and to retain as much historic fabric as possible, with a minimum of loss. The extent of plaster restoration work is as indicated on drawings, reports and specifications.

B. The work of this section consists of evaluating the condition and then repairing areas of removed or damaged plaster, the removal of modern plaster patches, repairing cracks, and applying a scratch, float, or setting coat, where required, to restore and preserve wall and ceiling areas, to repair and restore damaged plaster moldings and castings to a physically and historically compatible finish.

1.3 QUALITY ASSURANCE

A. Restoration Specialist: Work must be performed by a firm having not less than 5 years successful experience in comparable restoration projects and employing personnel skilled in the restoration processes and operations indicated. The qualifications of historic plaster repair contractor must be experienced in all phases of historic plaster repair, specifically lime based plasters, the preservation and reproduction thereof. The contractor must have at least four projects of similar historical significance. They should have had training at a nationally recognized hands-on training program in historic plaster repair including the stabilization of historic plaster with conservation adhesives.

1.4 SUBMITTALS

A. Materials to be used for approval by the Engineer.

B. Provide written repair procedures with photos to be approved by the Engineer.

C. Provide two sample panels at least 2 feet square of replacement plaster(s) to be used as standards for the repair and patching work. Sample panels to be approved by the Engineer.

D. Submit documentation to the Engineer for approval for proposed plaster repair work to utilize adhesive reattachment.

E. This section may be waived in any or all of its parts by the Engineer.

F. Section 5-3.03 Submittals.

1.5 JOB CONDITIONS

A. Protect and cover all adjacent architectural features and all work completed by other trades.

B. Determine what substrates to which plaster materials are to be applied are sound and free from defects that may affect proper application of the lime plaster. Report defective conditions to the Engineer.

C. Insure that a minimum temperature of 65 degrees F is maintained for an adequate period prior to, during and after application of plaster and that heating and/or ventilation is properly regulated to insure correct curing of the lime plaster.

D. Lead Paint exists on original plaster surfaces, when removed lead paint shall be disposed of properly, review evaluation report provided by the Engineer.

1.6 PRODUCT HANDLING

A. Follow manufacturer's directions, and store materials where directed to prevent damage.

PART 2 MATERIALS

2.1 Basecoat Plasters for application on wood lath or masonry:

A. Mix lime putty, 1:3, with sand, for the scratch coat, well haired; Mix lime putty, 1:2.0-2.5, with sand, for the float coat, haired or formulate according to mortar analysis or volumetric test.

2.2 Finish coat Plasters or small area, crack repair:

A. Mix lime putty, 1:1, with graded sand, for the finish coat, or;

B. Mix lime putty, 3:1, with gauging plaster, or;

C. Mix according to the mortar analysis or volumetric test.

2.3 Gauging Plaster

A. USG Champion Quality Gauging Plaster or equal

2.4 Lime

A. Lime putty with plasticity greater than 400, 98% or better calcium, and a high surface area of $30m^2$/gram or better.

2.5 Sand

A. Sand shall be well graded, masons, and shall be clean and free of dirt, and organic substances. Or match the existing historic sand as determined by the mortar analysis.

2.6 Fiber for Scratch and Float coats

A. The allowable fibers are as determined by mortar analysis or as follows in order of priority, hemp, goat hair, cattle hair, hog hair, jute, sisal, or manila. The fiber should be 1″ to 1/2″, in length. It shall be added in the proportion of 1/2 pound of fiber to 2.25 cubic feet to the basecoat, course stuff.

2.7 Water shall be clean, fresh, potable, and free from organic substances.

2.8 Bonding agents will <u>not</u> to be used without specific authorization from the Engineer.

2.9 Adhesive, for the reattachment and stabilization of loose plasters, use a plaster adhesive and a plaster conditioner according to, manufacturer's directions.

2.10 Metal Lath, <u>not for application on sound exposed wood lath or over sound masonry</u>

A. Galvanized steel expanded (diamond) mesh lath if needed. The tie wire shall be 18 gauge galvanized soft annealed wire.

2.11 Fasteners

A. For wood lath to wood framing, stainless steel, ring shank siding nails.

B. For metal lath to wood framing, galvanized or stainless steel bugle head deck screws and galvanized metal plaster washers.

2.12 Molds & Castings

A. Make molds of undamaged areas of mouldings to cast plaster repair parts.

B. Use appropriate stainless steel pins and adhesives as described herein.

PART 3 EXECUTION

3.0 Evaluation of plaster condition

A. The Historic Plaster Repair Contractor shall conduct an evaluation and formulate a plan for the plaster repair work to be coordinated with the Engineer.

3.1 Adhesive reattachment

A. The Historic Plaster Repair Contractor shall provide manufacturer's information for products to be used. Big Wally's Plaster Magic Adhesives or equal used according to manufacturer's specifications.

3.2 Preparation; for plaster repair

A. At modern patches, evaluate their soundness and remove if necessary.

B. At exposed wood lath, re-secure to existing framing with stainless steel nails or pre-drill holes for deck screw attachment. Clean out keys and vacuum clean. Attach perimeter of sound plaster with an approved conservation adhesive, (see 3.1), allow to coalesce as necessary. Rake perimeter of hole, to cut it back, for replacement plaster to tuck in behind the existing plaster.

C. Dampen wood lath until the surface is damp; using a product similar to Big Wally's Plaster Magic Conditioner or equal.

D. Replace missing wood lath with similar materials. It is not appropriate to mix wood and metal lath.

E. At existing sound plaster bases, delaminating top coats: Determine, in consultation with the Engineer, which delaminations are to be saved and which are to be removed. Reattach the ones that are to be saved with the conservation adhesive and remove the others.

F. Cracks are not to be raked out. This cuts the fiber binder that is still bridging the crack. Raking could weaken the plaster stability. If the fibrous binder is rendered by the width of the crack it is permissible to rake out the crack after stabilization with adhesives.

G. At repaired plaster moldings or castings, re-secure to existing sound plaster with stainless steel pins in pre-drilled holes and an approved conservation adhesive, (see 3.1), allow to coalesce as necessary per manufacturer's instructions.

3.3 Application of plaster

A. Large area repair, adhere the perimeter of the opening and fill with two to three layers of the lime/sand/hair basecoat plaster, no more than 5/16″ per coat, and a finish coat, flush with the surrounding surfaces.

B. Small area repair, two inches or larger, fill with large area material, smaller, fill with crack fill material, flush with the surrounding surfaces.

C. Crack fill at raked out crack (when fibrous binder is rendered, if crack fiber is intact do not rake out) to approximately 1/2″ depth and fill with non-sanded finish coat material, flush with the surrounding surfaces. If crack is not open then topping with a thin layer of ready mix joint compound after stabilization is appropriate.

D. Surface delaminations, remove as necessary, and replace with non-sanded finish coat material, flush with the surrounding surfaces.

E. Skim surface for cosmetic effect with joint compound, either ready mix or setting type.

F. Moldings and Castings, remove old repairs, evaluate conditions in conjunction with Engineer and decide on course of repair. Repair to follow crack repair specifications keeping true to profile.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 9 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Historic Plaster Repair specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 09 29 00

GYPSUM BOARD

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 - GENERAL

1.1 SUMMARY

A. Interior gypsum board.

B. Backing panels.

1.2 QUALITY ASSURANCE

A. Mockups for the following:

1. Match existing texture finishes.

1.3 MATERIALS

A. Interior Gypsum Board:

1. Type X.

2. Ceiling Type: Manufactured to have more sag resistance than regular-type X gypsum board.

3. Abuse-resistant type.

4. Moisture- and mold-resistant type.

B. Trim Accessories:

1. Interior.

C. Texture finishes.

0.1 QUALITY ASSURANCE

A. Single-Source Responsibility for Panel Products: Obtain each type of gypsum board and other panel products from a single manufacturer.

B. Single-Source Responsibility for Finishing Materials: Obtain finishing materials from either the same manufacturer that supplies gypsum board and other panel products or from a manufacturer acceptable to gypsum board manufacturer.

1.2 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier

B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Neatly stack gypsum panels flat to prevent sagging

0.3 PROJECT CONDITIONS

A. Environmental Conditions, General: Establish and maintain environmental conditions for applying and finishing gypsum board to comply with ASTM C 840 requirements or gypsum board manufacturer's recommendations, whichever are more stringent.

B. Room Temperatures: For non-adhesive attachment of gypsum board to framing, maintain not less than 40 degree F. Do not exceed 95 degree F when using temporary heat sources.

C. Ventilation: Ventilate building spaces as required to dry joint treatment materials. Avoid drafts during hot, dry weather to prevent finishing materials from drying too rapidly.

PART 1 – PRODUCTS

2.1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

A. Gypsum Board and Related Products:

1. Georgia-Pacific Corp.

2. National Gypsum Co.; Gold Bond Building Products Division.

3. United States Gypsum Co.

2.2 GYPSUM BOARD PRODUCTS

A. General: Provide gypsum board of types indicated in maximum lengths available that will minimize end-to-end butt joints in each area indicated to receive gypsum board application.

B. Gypsum Wallboard: ASTM C 36 and as follows:
1 Type: Type X for fire-resistance-rated assemblies.
2 Type: Sag-resistant type for ceiling surfaces.
3 Edges: Tapered.
4 Thickness: 5/8 inch (15.9 mm.) unless otherwise indicated.

2.3 TRIM ACCESSORIES

C. Accessories for Interior Installation: Corner bead, edge trim, and control joints complying with ASTM C 1047.

1.4 JOINT TREATMENT MATERIALS

A. General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of both the manufacturers of sheet products and of joint treatment materials for each application indicated.

B. Joint Tape for Gypsum Board: Paper reinforcing tape, unless otherwise indicated.

C. Drying-Type Joint Compounds for Gypsum Board: Factory-packaged vinyl-based products complying with the following requirements for formulation and intended use.

1. Ready-Mixed Formulation: Factory-mixed product.

a. Taping compound formulated for embedding tape and for first coat over fasteners and face flanges of trim accessories.

b. Topping compound formulated for fill (second) and finish (third) coats.

c. All-purpose compound formulated for both taping and topping compounds.

1.5 MISCELLANEOUS MATERIALS

A. General: Provide auxiliary materials for gypsum board construction that comply with referenced standards and recommendations of gypsum board manufacturer.

B. Wood drill screws complying with ASTM for the following applications:

2. Fastening gypsum board to wood members not less than 2x nominal size.

3. Fastening gypsum board to or through gypsum board.

C. Gypsum Board Nails: NOT USED.

PART 2 - EXECUTION

2.1 EXAMINATION

A. Examine substrates to which gypsum board assemblies attach or abut, installed hollow metal frames, cast-in-anchors, and wood or metal framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of assemblies specified in this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

2.2 INSTALLING FRAMING, GENERAL

A. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with recommendations of gypsum board manufacturer or, if none available, with United States Gypsum Co.'s "Gypsum Construction Handbook."

B. Isolate non-bearing framing from building structure to prevent transfer of loading imposed by structural movement.

2.3 APPLYING AND FINISHING GYPSUM BOARD, GENERAL

A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840.

B. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install gypsum panels with face side out. Do not install imperfect, damaged, or damp panels. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.

D. Locate both edge or end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Avoid joints other than control joints at corners of framed openings where possible.

E. Attach gypsum panels to supports so leading edge is centered on the framing material or to framing edge at openings or end conditions.

F. Attach gypsum panels to framing provided at openings and cutouts.

G. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's recommendations.

   1. Space screws a maximum of 12 inches o.c. for vertical applications.

H. Space fasteners in panels that are tile substrates a maximum of 8 inches o.c.

2.4 GYPSUM BOARD APPLICATION METHODS

A. Single-Layer Application: Install gypsum wallboard panels as follows:

   1. On ceilings, apply gypsum panels prior to wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.

2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing), unless parallel application is required for fire-resistance-rated assemblies. Use maximum-length panels to minimize end joints.

B. Single-Layer Fastening Methods: Apply gypsum panels to supports as follows:

1. Fasten with screws.

2.5 INSTALLING TRIM ACCESSORIES

A. General: For trim accessories with back flanges, fasten to framing with the same fasteners used to fasten gypsum board. Otherwise, fasten trim accessories according to accessory manufacturer's directions for type, length, and spacing of fasteners.

B. Install corner bead at external corners.

2.6 FINISHING GYPSUM BOARD ASSEMBLIES

A. General: Treat gypsum board joints, interior angles, flanges of corner bead, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Finish all face panel joints and internal angles with USG joint system installed according to manufacturer's directions.

B. Pre-fill open joints, rounded or beveled edges, and damaged areas using setting-type joint compound.

C. Apply joint tape over gypsum board joints, except those with trim accessories having flanges not requiring tape.

D. Apply joint tape over gypsum board joints and to flanges of trim accessories as recommended by trim accessory manufacturer.

2.7 CLEANING AND PROTECTION

A. Promptly remove any residual joint compound from adjacent surfaces.

B. Provide final protection and maintain conditions, in a manner acceptable to Installer, that ensure gypsum board assemblies are without damage or deterioration at the time of Substantial Completion.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 9 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Gypsum Wallboard specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 09 60 00

FLOORING REPAIR

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 - GENERAL

1.0 PROJECT INFORMATION:

A. The flooring of the Historic Goodman Library was damaged during the earthquake and will need repair and protection during the construction process. The entry lobby's historic mosaic tile floor was damaged and needs some minor repair; while the existing resilient sheet flooring needs to be thoroughly inspected and assessed for repairs.

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Conditions and Sections 1 through 14 and Division 01 specification Sections, apply to this Section.

B. Extent of waterproofing work is shown on drawings. Similar work used as exposed finish is excluded by definition and, if required, is specified as a special coating or other appropriate category.

1.2 SUBMITTALS

A. General: Submit to the Engineer in according with the Conditions of Contract and Sections 1 through 14 and Division 01 Specification Sections.

B. Provide material samples as applicable.

B. Product data including manufacturer's specifications, application instructions, applicable technical bulletins, and general recommendations. Include data substantiating that materials are recommended by manufacturer for applications indicated and comply with requirements.

C. Warranty period for applicator and manufacturer is 5 years after date of substantial completion.

0.3 QUALITY ASSURANCE

A. Single-Source Responsibility for Floor products: Grouts, mastics and other products from a single source. Provide products of consistent quality in appearance and physical properties without delaying progress of the Work.

0.1 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials and installation accessories to Project site in original manufacturer's unopened cartons and containers each bearing names of product and manufacturer, Project identification, and shipping and handling instructions.

B. Store materials in dry spaces protected from the weather with ambient temperatures maintained between 50 deg F and 90 deg F.

C. Store materials on flat surfaces.

0.2 PROJECT CONDITIONS

A. Maintain a minimum temperature per manufacturer’s recommendation. And, maintain a temperature of not less than 55 deg F.

B. Do not install tiles until they are at the same temperature as the space where they are to be installed.

C. Close spaces to traffic during repair and installation.

0.3 SEQUENCING AND SCHEDULING

A. Repair work to be done after other finishing operations have been completed.

B. Do not repair or install over floor surfaces until they are sufficiently corrected or supported or dry to bond with adhesives as determined by manufacturer's recommended bond and moisture test.

PART 1 - PRODUCTS

2.1 HISTORIC MOSAIC TILE

A. Existing mosaic tile.

B. New grout or mortar to match existing in color and physical properties. Test existing materials to verify properties.

1.1 RESILIENT SHEET FLOORING

A. Existing Resilient Sheet Floor.

B. New adhesives and mastics to match existing materials. Test existing materials to very physical properties..

PART 2 - EXECUTION

2.1 EXAMINATION

A. General: Examine areas where installation and repair work will occur, with Installer present, to verify that substrates and conditions are satisfactory and comply with manufacturer's requirements.

B. Subfloors: Existing subfloor at mosaic tile has sagged and existing subfloor at resilient flooring may have shifted. Verify that subfloors comply with the following:

1. Substrates are sound and existing flooring has not lost its adhesion to the existing subfloor.

2. Repaired subfloors comply with tolerances and other requirements for receiving mosaic tile and resilient flooring.

C. Do not proceed with installation until unsatisfactory conditions have been corrected.

2.2 PREPARATION

A. General: Comply with manufacturer's installation specifications to prepare substrates.

B. Use trowelable leveling and patching compounds per manufacturer's directions.

C. Use trowelable mortars or grouts per manufacturer’s directions.

D. Broom or vacuum clean surfaces for tile, grouting repair and installation.

E. Vacuum and damp mop resilient floor surfaces clean for repair and installation.

2.3 INSTALLATION

A. General: Comply with general quality practices for tile and resilient floor installations. Where applicable, follow manufacturer's installation directions and other requirements that are applicable to each type of installation included.

B. Repair (re-adhere) existing resilient flooring that may have lost it adhesion when the subfloor shifted. Protect existing flooring during the course of the work or plan for replacement. Repair or replace any flooring damaged during the construction process.

C. Repair existing mosaic tile floor that may have lost adhesion when the subfloor shifted. Repair sag in subfloor and re-adhere or reinstall existing mosaic floor tile and grout or re-grout to original appearance.

2.4 CLEANING AND PROTECTION

A. Perform the following operations after completing repair or installation:

1. Remove visible adhesive and other surface blemishes.

2. Sweep or vacuum floor thoroughly.

3. Do not wash floor until after time period recommended.

4. Damp-mop tile to remove black marks and soil.

B. Protect flooring against mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period. Replace or repair any damaged flooring.

C. Clean flooring not more than 4 days prior to dates scheduled for inspections intended to establish date of Substantial Completion.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 9 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Flooring Repair specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 09 90 00

PAINTING AND COATING

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Provide painting and finishing of exposed items and surfaces requiring shop or field painting and finishing including shop pre-primed items.
   1. Specified surface preparation, priming and coats of paint including shop-priming and painting.
   2. Painting and finishing includes field finishing (touch up) of shop finished items as required to match adjacent surfaces.

B. Surfaces Not To Be Painted:
   1. Finished items including finished metal or wood surfaces.
   2. Exterior Stone Walls, Wood Doors, Windows and Trim.
   3. Concrete Flatwork, Steps, Ramp and railings.
   4. Existing Canvas Awnings.

1.2 SUBMITTALS

A. Product Data: Submit manufacturer's technical information, including paint label analysis and application instructions for each material.

B. Samples: Submit samples for review of color; provide list of material and application for each coat of each finish sample.

C. Manufacturer Certificates: Furnish certificates from each manufacturer stating materials are top quality lines and suitable for intended use on this Project.

D. Section 5-3.03 Submittals.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to job site in original, new and unopened packages and containers bearing manufacturer's name and label, with:
   1. Name of material, color and sheen.
   2. Manufacturer's name, stock number and date of manufacture.
   3. Contents by volume, for major pigment and vehicle constituents.
   4. Thinning and application instructions.

1.4 QUALITY ASSURANCE

A. Sustainability Requirements: Comply with CAL Green requirements including those relative to finish material pollution control for paints and coatings.

1.5 SITE CONDITIONS

A. Apply water-base paints when temperature of surfaces and surrounding air are between 50 and 90 degrees F.

B. Do not apply paint in rain, fog or mist; or when relative humidity exceeds 85 percent; or to damp or wet surfaces.

C. Painting may be continued during inclement weather if areas to be painted are enclosed and heated within temperature limits specified.

PART 2 - PRODUCTS

2.1 SYSTEMS MANUFACTURERS

A. Benjamin Moore & Co.
B. Sherwin-Williams Co.
C. Pittsburgh Paints, PPG Pittsburgh Paints.
D. Dunn-Edwards Corp.
E. ICI Paints including Devoe, Fuller O'Brien, Glidden, and Sinclair.
F. Kelly Moore Paint Co.

2.2 MATERIALS

A. System Description: Provide painting and finishing of exposed items and surfaces requiring field painting and finishing including shop primed items.
   1. Definition: "Painting" and "coating" as used herein means systems including primers, emulsions, enamels, stains, sealers and fillers, whether used as prime, intermediate or finish coats.

B. Regulatory Requirements:
   1. Volatile Organic Compound (VOC) Emissions: Furnish materials approved for use by applicable air quality management district for limitations of volatile organic compounds for architectural or special coatings as applicable.

C. Material Quality: Provide top line quality commercial grade paints; materials not bearing manufacturer's identification as a best-grade product shall not be acceptable.
   1. Primers: Provide premium grade primers recommended by paint manufacturer for substrates indicated and for finish systems specified.
   2. Undercoats and Barrier Coats: Provide undercoat paints produced by same manufacturer as finish coats; use only thinners approved by paint manufacturer, and use only within recommended limits.

3. Finish Coats: Provide finish coats capable of being washed with mild detergent without loss of color, sheen, or pigments.
    a. Color pigments: Pure, non-fading, applicable types to suit substrates and service indicated; no lead content permitted.
4. Finish Coat Coordination: Provide finish coats which are compatible with prime paints, undercoats, and barrier coats used.
    a. Provide barrier coats over incompatible primers or remove and prime as required.
    b. Notify Engineer in writing of any anticipated problems in use of specified coating systems with substrates primed by others.

D. Colors and Finishes: Prior to commencement of painting work, Architect will furnish color chips for surfaces to be painted.
    1. Use of proprietary names in color selection is not intended to imply exclusion of equivalent products of other manufacturers.
    2. Color selected: Kelly Moore KM563-M.

E. Volatile Organic Compound (VOC) Emissions and Toxic Substances: Provide materials with no or limited volatile organic compound (VOC) emissions and toxic substances such as urea- formaldehyde to reduce indoor air contaminants.
    1. Select materials that generate least amount of pollution; consider pollution and volatile organic compound (VOC) emissions generated during manufacturing, transport, installation, use, and disposal.
    2. Avoid materials that contain ozone depleting chemicals and that emit potentially harmful volatile organic compound (VOC) emissions.
    3. Avoid materials that can leach harmful chemicals into ground water; do not allow potentially harmful chemicals to enter sewers nor storm drains.
    4. Select materials that can be reused or recycled and materials with significant percentage of recycled content; set specific recycled content percentages for individual materials; avoid materials difficult to recycle.

PART 3 - EXECUTION

3.1 PREPARATION

A. Inspection: Examine areas and conditions under which painting work is to be applied.
    1. Start of painting work indicates acceptance of surfaces and conditions of surfaces and conditions within any particular area.
    2. Where exposed items or surfaces are not specifically mentioned, paint same as adjacent similar materials or areas.
    3. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to a durable paint film.

B. Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as specified for substrate condition.

C. Clean surfaces before applying paint; remove oil and grease; program cleaning so contaminants from cleaning process do not affect painted surfaces.

D. Ferrous Metals: Touch up shop-applied prime coats wherever damaged using same type of primer as applied in shop or barrier coat compatible with finish paint.
   1. Bare Surfaces: Clean surfaces that are not galvanized or shop-coated, of oil, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning.
   2. Galvanized Surfaces: Clean free of oil and surface contaminants, using non-petroleum based solvent; primer and touch-up primer to be zinc-rich primer.

E. Mix painting materials in accordance with manufacturer's directions.

F. Store materials in tightly covered containers; maintain containers used in storage, mixing and application of paint in a clean condition, free of foreign materials and residue.

G. Stir materials before application to produce mixture of uniform density, and stir as required during application; do not stir surface film into material, if necessary, strain material before using.

3.2 APPLICATION

A. Apply paint in accordance with manufacturer's directions; use applicators and techniques best suited for substrate and type of material being applied.
   1. Apply additional coats when stains or blemishes show through final coat, until paint is a uniform finish, color and appearance.
   2. Provide extra attention during application to assure dry film thickness at corners and crevices is equivalent to that of flat surfaces.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated or prepared for painting as soon as practicable after preparation.
   1. Allow time between successive coatings to permit proper drying.
   2. Do not recoat until paint feels firm and does not deform or feel sticky under moderate thumb pressure.

C. Minimum Coating Thickness: Apply materials at not less than manufacturer's recommended spreading rate, to establish a total dry film thickness as recommended by coating manufacturer.

D. Prime Coats: Apply to items not previously primed; recoat primed and sealed surfaces where there is evidence of suction spots or unsealed areas in first coat.

E. Finish Coats: Provide even texture; leave no laps, irregularity in texture, skid marks, or other surface imperfections.
   1. Opaque Finishes: Provide opaque, uniform finish, color and coverage; cloudiness, spotting, holidays, brush marks, runs, sags, ropiness, and other surface imperfections are not acceptable.

F. Completed Work: Match approved samples for color, texture and coverage; remove, refinish or repaint work not accepted.

3.3 EXTERIOR PAINTING SCHEDULE

A. General: Provide the following paint systems for the various substrates indicated. S-W (Sherwin Williams) brand listed for reference to achieve desired product quality.

B. Concrete and Stucco:
   1. Lusterless (Flat) Acrylic Finish: Two coats with total dry film thickness not less than 2.5 mils (0.06 mm).
      a. First and Second Coats: Exterior acrylic emulsion.
         1) S-W: A-100 Acrylic Latex Flat Exterior Finish A-6 Series.

C. Woodwork:
   1. Semigloss Enamel Finish: Three coats.
      a. Undercoat: Exterior enamel undercoat primer.
         1) S-W: Exterior Latex Wood Primer, B42W8041.
      b. First and Second Coats: Exterior semigloss enamel.
         1) S-W: Solo Acrylic Semi-Gloss A76 Series.

D. Ferrous Metal: Primer is not required on shop-primed items.
   1. Full-Gloss Alkyd Enamel: Two finish coats over primer.
      a. Primer: Synthetic rust-inhibiting primer.
         1) S-W: Kem Kromik Metal Primer B50N2/B50W1.
      b. First and Second Coats: Gloss alkyd enamel.
         1) S-W: Industrial Enamel B-54 Series.

E. Zinc-Coated or Galvanized Metal:
   1. High-Gloss Alkyd Enamel: Two finish coats over primer.
      a. Primer: Galvanized metal primer.
         1) S-W: Galvite B50W3.
      b. First and Second Coats: Gloss alkyd enamel.
         1) S-W: Industrial Enamel B-54 Series.

3.5 INTERIOR PAINTING SCHEDULE

A. Wood and Wood Panel Substrates: Including painted plywood or hardboard.
   1. Latex System.
      a. Prime Coat: Interior latex-based wood primer.
      b. Intermediate Coat: Interior latex matching topcoat.
      c. Topcoat: Interior latex semi-gloss.
   2. Latex Over Alkyd Primer System.
      c. Prime Coat: Interior alkyd primer/sealer.
      d. Intermediate Coat: Interior latex matching topcoat.
      c. Topcoat: Interior latex eggshell.

B. Gypsum Board Substrates.
   1. Latex System.
      a. Prime Coat: Interior latex primer/sealer.
      b. Intermediate Coat: Interior latex matching topcoat.
      c. Topcoat: Interior latex eggshell.
   2. Latex Over Alkyd Primer System.
      c. Prime Coat: Interior alkyd primer/sealer.
      d. Intermediate Coat: Interior latex matching topcoat.
      c. Topcoat: Interior latex eggshell.

C. Plaster Substrates.
   2. Latex System.
      e. Prime Coat: Interior latex primer/sealer.
      f. Intermediate Coat: Interior latex matching topcoat.
      c. Topcoat: Interior latex eggshell.
   2. Latex Over Alkyd Primer System.
      g. Prime Coat: Interior alkyd primer/sealer.
      h. Intermediate Coat: Interior latex matching topcoat.
      c. Topcoat: Interior latex eggshell.

3.6 CLEAN-UP, PROTECTION, AND REPAIR

A. Clean-Up: During progress of work, remove discarded paint materials, rubbish, cans and rags from site at end of each work day.
   1. Clean glass and paint-spattered surfaces immediately by proper methods of washing and scraping, using care not to scratch or damage finished surfaces.

B. Protection: Protect work of other trades, whether to be painted or not; correct damage by cleaning, repairing or replacing, and repainting, as acceptable to the Engineer.
   1. Provide "Wet Paint" signs to protect newly-painted finishes.
   2. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.

C. Repair: At completion of work of other trades, touch-up and restore damaged surfaces or defaced painted surfaces.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 9 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Painting and Coating specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 14 80 00

SCAFFOLDING

This specification section is provided to establish the criteria and performance detailed below and represents the minimum content required for this specific specification section.

PART 1 GENERAL

1.1 SCOPE

A. You shall be responsible for scaffolding removal at project completion.

B. Modular and Masonry rated scaffolding was previously installed and is currently in place at the project site. The City of Napa is currently paying the rental cost for the scaffolding. You shall arrange with the scaffolding vendor to begin paying the scaffolding rental cost following issuance of the Notice-to-Proceed for this project. Scaffolding rental is currently provided by Scaffolding Solutions, Inc. (telephone: (707) 257-7712). Any additional or alternate methods for providing project scaffolding are the responsibility of the contractor.

1.2 PROJECT CONDITIONS

A. Existing Historic Property was damaged during the recent Napa Earthquake. The scaffolding was partially anchored to the existing concrete at grad, to existing wall ties already in place and to steel framing on the roof that is supporting the existing parapet walls.

B. All anchorages existing and/or installed to be removed and damages repaired at the time the scaffolding is removed. Coordinate the removal of anchors and repairs with the General Contractor. Damage caused by anchors removed that are attached to the Historic Building are to be repaired by the general contractor under contract at that time.

1.3 SUBMITTALS

A. Scaffolding currently in place was installed to comply with safety requirements and industry standards. Notify the General Contractor and the City's Project Engineer if any existing installation conditions need to be modified to complete the work.

1.4 DELIVERY, SET UP, AND HANDLING

A. Materials shall be handled, transported, and delivered in a manner which will prevent damage or corrosion. Damaged materials shall be promptly replaced.

PART 2 NOT USED

PART 3 EXECUTION

3.1 GENERAL

A. Scaffolding installation to comply with all Federal, State and Local requirements, OSHA Regulations and Standards. Installation to be certified (tagged) by an OSHA approved inspector.

B. Temporary Facilities and Protection::

1. Temporary Barricades. Where indicated or required for public and worker safety and to prevent injury to workers. Provide overhead safety lighting at public accessible areas.
2. Temporary Debris and Dust Control. Where indicated or required provide screening or materials to control impact on the public.
3. Protection of Historic Property. Where indicated or required protect the historic building from damage during the installation and removal.
4. Protection of the Public: Where indicated or required protect the public at the public way and entrance to the building. Provide solid roof or wall protection at designated walkways.

PART 4 MEASUREMENT AND PAYMENT

A. The contract unit lump sum price paid for this Division 14 bid item includes full compensation for providing all labor, materials, tools, equipment and incidentals and for doing all the work involved in this section, complete in place, as shown on the plans, as specified in the Standard Specifications and these Scaffolding specifications, as directed by the Engineer, and no additional compensation will be allowed therefor.

END OF SECTION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

FINAL REPORT-UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES (DBE), FIRST-TIER SUBCONTRACTORS

CEM-2402F (REV 02/2008)

ADA Notice
For individuals with sensory disabilities, this document is available in alternate formats. For information call (916) 654-6410 or TDD (916) 654-3880 or write Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814

CONTRACT NUMBER	COUNTY	ROUTE	POST MILES	FEDERAL AID PROJECT NO.	ADMINISTERING AGENCY		CONTRACT COMPLETION DATE
PRIME CONTRACTOR			BUSINESS ADDRESS				ESTIMATED CONTRACT AMOUNT $

ITEM NO.	DESCRIPTION OF WORK PERFORMED AND MATERIAL PROVIDED	COMPANY NAME AND BUSINESS ADDRESS	DBE CERT. NUMBER	CONTRACT PAYMENTS NON-DBE	CONTRACT PAYMENTS DBE	DATE WORK COMPLETE	DATE OF FINAL PAYMENT
				$	$		
				$	$		
				$	$		
				$	$		
				$	$		
				$	$		
				$	$		
				$	$		
				$	$		
				$	$		
				$	$		
				$	$		
ORIGINAL COMMITMENT $			TOTAL	$	$		

DBE

List all First-Tier Subcontractors, Disadvantaged Business Enterprises (DBEs) regardless of tier, whether or not the firms were originally listed for goal credit. If actual DBE utilization (or item of work) was different than that approved at time of award, provide comments on back of form. List actual amount paid to each entity.

I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT

CONTRACTOR REPRESENTATIVE'S SIGNATURE	BUSINESS PHONE NUMBER	DATE

TO THE BEST OF MY INFORMATION AND BELIEF, THE ABOVE INFORMATION IS COMPLETE AND CORRECT

RESIDENT ENGINEER'S SIGNATURE	BUSINESS PHONE NUMBER	DATE

Copy Distribution-Caltrans contracts: **Original** - District Construction; **Copy**- Business Enterprise Program; **Copy**- Contractor; **Copy** Resident Engineer

Copy Distribution-Local Agency contracts: **Original** - District Local Assistance Engineer (submitted with the Report of Expenditure; **Copy**- District Local Assistance Engineer; **Copy**- Local Agency file

DBE-1

FINAL REPORT – UTILIZATION OF DISADVANTAGED BUSINESS ENTERPRISES (DBE), FIRST-TIER SUBCONTRACTORS
CEM 2402(F) (Rev. 02/2008)

The form requires specific information regarding the construction project: Contract Number, County, Route, Post Miles, Federal-aid Project No., the Administering Agency, the Contract Completion Date and the Estimated Contract Amount. It requires the prime contractor name and business address. The focus of the form is to describe who did what by contract item number and descriptions, asking for specific dollar values of item work completed broken down by subcontractors who performed the work both DBE and non-DBE work forces. DBE prime contractors are required to show the date of work performed by their own forces along with the corresponding dollar value of work.

The form has a column to enter the Contract Item No. (or Item No's) and description of work performed or materials provided, as well as a column for the subcontractor name and business address. For those firms who are DBE, there is a column to enter their DBE Certification Number. The DBE should provide their certification number to the contractor and notify the contractor in writing with the date of the decertification if their status should change during the course of the project.

The form has six columns for the dollar value to be entered for the item work performed by the subcontractor.

The Non-DBE column is used to enter the dollar value of work performed for firms who are not certified DBE.

The decision of which column to be used for entering the DBE dollar value is based on what program(s) status the firm is certified. This program status is determined by the California Unified Certification Program by ethnicity, gender, ownership, and control issues at time of certification. To confirm the certification status and program status, access the Department of Transportation Civil Rights web site at: http://www.dot.ca.gov/hq/bep or by calling (916) 324-1700 or the toll free number at (888) 810-6346.

Based on this DBE Program status, the following table depicts which column to be used:

DBE Program Status	Column to be used
If program status shows DBE only with no other programs listed	DBE

If a contractor performing work as a DBE on the project becomes decertified and still performs work after their decertification date, enter the total dollar value performed by this contractor under the appropriate DBE identification column.

If a contractor performing work as a non-DBE on the project becomes certified as a DBE, enter the dollar value of all work performed after certification as a DBE under the appropriate identification column.

Enter the total of each of the six columns in Form CEM-2402(F).

Any changes to DBE certification must also be submitted on Form-CEM 2403(F).

Enter the Date Work Completed as well as the Date of Final Payment (the date when the prime contractor made the "final payment" to the subcontractor for the portion of work listed as being completed).

The contractor and the resident engineer sign and date the form indicating that the information provided is complete and correct.

EXHIBIT 17-O DISADVANTAGED BUSINESS ENTERPRISES (DBE) CERTIFICATION STATUS CHANGE

STATE OF CALIFORNIA – DEPARTMENT OF TRANSPORTATION
CP-CEM-2403(F) (New. 10/99)

CONTRACT NUMBER	COUNTY	ROUTE	POST MILES	ADMINISTERING AGENCY	CONTRACT COMPLETION DATE

PRIME CONTRACTOR	BUSINESS ADDRESS	ESTIMATED CONTRACT AMOUNT

Prime Contractor: List all DBEs with changes in certification status (certified/decertified) while in your employ, whether or not firms were originally listed for good credit.
Attach DBE certification/Decertification letter in accordance with the Special Provisions

CONTRACT ITEM NO.	SUBCONTRACT NAME AND BUSINESS ADDRESS	BUSINESS PHONE	CERTIFICATION NUMBER	AMOUNT PAID WHILE CERTIFIED	CERTIFICATION/ DECERTIFICATION DATE Letter attached
				$	
				$	
				$	
				$	
				$	
				$	
				$	
				$	
				$	

Comments:

I CERTIFY THAT THE ABOVE INFORMATION IS COMPLETE AND CORRECT

CONTRACTOR REPRESENTATIVE SIGNATURE	TITLE	BUSINESS PHONE NUMBER	DATE

TO THE BEST OF MY KNOWLEDGE, THE ABOVE INFORMATION IS COMPLETE AND CORRECT

RESIDENT ENGINEER	BUSINESS PHONE NUMBER	DATE

Distribution Original copy -DLAE
Copy -1) Business Enterprise Program 2) Prime Contactor 3) Local Agency 4) Resident Engineer

DBE-3

Form CP-CEM 2403(F) (New 10/99)
DISADVANTAGED BUSINESS ENTERPRISES (DBE) CHANGE IN CERTIFICATION STATUS REPORT

The top of the form requires specific information regarding the construction project: Contract Number, County, Route, Post Miles, the Administering Agency, the Contract Completion Date, and the Estimated Contract Amount. It requires the Prime Contractor's name and Business Address. The focus of the form is to substantiate and verify the actual DBE dollar amount paid to contractors on federally funded projects that had a changed in Certification status during the course of the completion of the contract. The two situations that are being addressed by CP-CEM 2403(F) are, if a firm certified as a DBE and doing work on the contract during the course of the project becomes Decertified, and if a non-DBE firm doing work on the contract during the course of the project becomes Certified as a DBE.

The form has a column to enter the Contract Item No (or Item Nos.) as well as a column for the Subcontractor's Name, Business Address, Business Phone, and contractor's Certification Number.

The column entitled Amount Paid While Certified will be used to enter the actual dollar value of the work performed by those contractors who meet the conditions as outlined above during the time period they are Certified as a DBE. This column on the CP-CEM-2403(F) should only reflect the dollar value of work performed while the firm was Certified as a DBE.

The column called Certification/Decertification Date (Letter attached) will reflect either the date of the Decertification Letter sent out by the Civil Rights Program or the date of the Certification Certificate mailed out by the Civil Rights Program. There is a box to check that support documentation is attached to the CP-CEM-2403 (F) form.

There is a Comments section for any additional information that may need to be provided regarding any of the above transactions.

The CEM-2403(F) has an area at the bottom where the Contractor and the Resident Engineer sign and date that the information provided is complete and correct.

There is a Comments section for any additional information that may need to be provided regarding any of the above transactions.

The CEM-2403(F) has an area at the bottom where the Contractor and the Resident Engineer sign and date that the information provided is complete and correct.

APPENDIX A

CITY OF NAPA
CALENDAR OF HOLIDAYS

2017

City of Napa

Recognized Holidays

January '17

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

February '17

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28				

March '17

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

April '17

Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

May '17

Su	M	Tu	W	Th	F	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

June '17

Su	M	Tu	W	Th	F	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

July '17

Su	M	Tu	W	Th	F	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

August '17

Su	M	Tu	W	Th	F	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

September '17

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

October '17

Su	M	Tu	W	Th	F	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

November '17

Su	M	Tu	W	Th	F	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

December '17

Su	M	Tu	W	Th	F	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

01/02/17 - New Year's Day
01/16/17 - Martin Luther King Jr. Day
02/20/17 - Presidents Day
05/29/17 - Memorial Day
07/04/17 - Independence Day
09/ 04/17 - Labor Day
10/09/17 - Columbus Day
11/10-17 - Veterans Day
11/23/17 & 11/24/17 - Thanksgiving Holiday
12/22/17 & 12/25/17 - Christmas Holiday

APPENDIX B

SAMPLE SUBMITTAL FORM

SAMPLE FORM

- SUBMITTAL -

(Contractor's Letterhead)

(Date)

City of Napa

P.O. Box 660

Napa, CA 94559-0660

Attention: Mark Tomko

Project: "[Click here and insert PROJET TITLE]"

Submittal No. (_____)

(allow space for City stamp)

The following is submitted for review:

Item Description	Manufacturer	Specification Section Reference	Drawing Sheet No.(s) Reference

I hereby certify that all material submitted has been checked for completeness, for correctness, and for compliance with the drawings and specifications, that field dimensions and conditions have been verified, and that exceptions, if any, are clearly noted.

_____

(Authorized Signature)

COMMENTS:_____

_____

APPENDIX C

FEDERAL MINIMUM WAGE RATES

Effective Date: November 25, 2016
General Decision Number: CA160009 November 25, 2016 CA9
Superseded General Decision Number: CA20150009

The applicable federal minimum wage rates can be found at the following Internet Website:

http://www.wdol.gov/dba.aspx

APPENDIX D

CODE OF FEDERAL REGULATIONS
44 C.F.R. § 13.36

Code of Federal Regulations

Title 44 - Emergency Management and Assistance

Volume: 1
Date: 2011-10-01
Original Date: 2011-10-01
Title: Section 13.36 - Procurement.
Context: Title 44 - Emergency Management and Assistance. CHAPTER I - FEDERAL EMERGENCY MANAGEMENT AGENCY, DEPARTMENT OF HOMELAND SECURITY. SUBCHAPTER A - GENERAL. PART 13 - UNIFORM ADMINISTRATIVE REQUIREMENTS FOR GRANTS AND COOPERATIVE AGREEMENTS TO STATE AND LOCAL GOVERNMENTS. Subpart C - Post-Award Requirements. - Changes, Property, and Subawards.

§ 13.36 Procurement.

(a) *States.* When procuring property and services under a grant, a State will follow the same policies and procedures it uses for procurements from its non-Federal funds. The State will ensure that every purchase order or other contract includes any clauses required by Federal statutes and executive orders and their implementing regulations. Other grantees and subgrantees will follow paragraphs (b) through (i) in this section.

(b) *Procurement standards.* (1) Grantees and subgrantees will use their own procurement procedures which reflect applicable State and local laws and regulations, provided that the procurements conform to applicable Federal law and the standards identified in this section.

(2) Grantees and subgrantees will maintain a contract administration system which ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

(3) Grantees and subgrantees will maintain a written code of standards of conduct governing the performance of their employees engaged in the award and administration of contracts. No employee, officer or agent of the grantee or subgrantee shall participate in selection, or in the award or administration of a contract supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when:

(i) The employee, officer or agent,

(ii) Any member of his immediate family,

(iii) His or her partner, or

(iv) An organization which employs, or is about to employ, any of the above, has a financial or other interest in the firm selected for award. The grantee's or subgrantee's officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from contractors, potential contractors, or parties to subagreements. Grantee and subgrantees may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value. To the extent permitted by State or local law or regulations, such standards or conduct will provide for penalties, sanctions, or other disciplinary actions for violations of such standards by the grantee's and subgrantee's officers, employees, or agents, or by contractors or their agents. The awarding agency may in regulation provide additional prohibitions relative to real, apparent, or potential conflicts of interest.

(4) Grantee and subgrantee procedures will provide for a review of proposed procurements to avoid purchase of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase. Where appropriate, an analysis will be made of lease versus purchase alternatives, and any other appropriate analysis to determine the most economical approach.

(5) To foster greater economy and efficiency, grantees and subgrantees are encouraged to enter into

State and local intergovernmental agreements for procurement or use of common goods and services.

(6) Grantees and subgrantees are encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property whenever such use is feasible and reduces project costs.

(7) Grantees and subgrantees are encouraged to use value engineering clauses in contracts for construction projects of sufficient size to offer reasonable opportunities for cost reductions. Value engineering is a systematic and creative analysis of each contract item or task to ensure that its essential function is provided at the overall lower cost.

(8) Grantees and subgrantees will make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration will be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

(9) Grantees and subgrantees will maintain records sufficient to detail the significant history of a procurement. These records will include, but are not necessarily limited to the following: rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

(10) Grantees and subgrantees will use time and material type contracts only—

(i) After a determination that no other contract is suitable, and

(ii) If the contract includes a ceiling price that the contractor exceeds at its own risk.

(11) Grantees and subgrantees alone will be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to source evaluation, protests, disputes, and claims. These standards do not relieve the grantee or subgrantee of any contractual responsibilities under its contracts. Federal agencies will not substitute their judgment for that of the grantee or subgrantee unless the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction.

(12) Grantees and subgrantees will have protest procedures to handle and resolve disputes relating to their procurements and shall in all instances disclose information regarding the protest to the awarding agency. A protestor must exhaust all administrative remedies with the grantee and subgrantee before pursuing a protest with the Federal agency. Reviews of protests by the Federal agency will be limited to:

(i) Violations of Federal law or regulations and the standards of this section (violations of State or local law will be under the jurisdiction of State or local authorities) and

(ii) Violations of the grantee's or subgrantee's protest procedures for failure to review a complaint or protest. Protests received by the Federal agency other than those specified above will be referred to the grantee or subgrantee.

(c) *Competition.* (1) All procurement transactions will be conducted in a manner providing full and open competition consistent with the standards of section 13.36. Some of the situations considered to be restrictive of competition include but are not limited to:

(i) Placing unreasonable requirements on firms in order for them to qualify to do business,

(ii) Requiring unnecessary experience and excessive bonding,

(iii) Noncompetitive pricing practices between firms or between affiliated companies,

(iv) Noncompetitive awards to consultants that are on retainer contracts,

(v) Organizational conflicts of interest,

(vi) Specifying only a “brand name” product instead of allowing “an equal” product to be offered and describing the performance of other relevant requirements of the procurement, and

(vii) Any arbitrary action in the procurement process.

(2) Grantees and subgrantees will conduct procurements in a manner that prohibits the use of

statutorily or administratively imposed in-State or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. Nothing in this section preempts State licensing laws. When contracting for architectural and engineering (A/E) services, geographic location may be a selection criteria provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

(3) Grantees will have written selection procedures for procurement transactions. These procedures will ensure that all solicitations:

(i) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition. The description may include a statement of the qualitative nature of the material, product or service to be procured, and when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description may be used as a means to define the performance or other salient requirements of a procurement. The specific features of the named brand which must be met by offerors shall be clearly stated; and

(ii) Identify all requirements which the offerors must fulfill and all other factors to be used in evaluating bids or proposals.

(4) Grantees and subgrantees will ensure that all prequalified lists of persons, firms, or products which are used in acquiring goods and services are current and include enough qualified sources to ensure maximum open and free competition. Also, grantees and subgrantees will not preclude potential bidders from qualifying during the solicitation period.

(d) *Methods of procurement to be followed*—(1) *Procurement by small purchase procedures.* Small purchase procedures are those relatively simple and informal procurement methods for securing services, supplies, or other property that do not cost more than the simplified acquisition threshold fixed at 41 U.S.C. 403(11) (currently set at $100,000). If small purchase procedures are used, price or rate quotations shall be obtained from an adequate number of qualified sources.

(2) Procurement by *sealed bids* (formal advertising). Bids are publicly solicited and a firm-fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming with all the material terms and conditions of the invitation for bids, is the lowest in price. The sealed bid method is the preferred method for procuring construction, if the conditions in § 13.36(d)(2)(i) apply.

(i) In order for sealed bidding to be feasible, the following conditions should be present:

(A) A complete, adequate, and realistic specification or purchase description is available;

(B) Two or more responsible bidders are willing and able to compete effectively and for the business; and

(C) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price.

(ii) If sealed bids are used, the following requirements apply:

(A) The invitation for bids will be publicly advertised and bids shall be solicited from an adequate number of known suppliers, providing them sufficient time prior to the date set for opening the bids;

(B) The invitation for bids, which will include any specifications and pertinent attachments, shall define the items or services in order for the bidder to properly respond;

(C) All bids will be publicly opened at the time and place prescribed in the invitation for bids;

(D) A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder. Where specified in bidding documents, factors such as discounts, transportation cost, and life cycle costs shall be considered in determining which bid is lowest. Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(E) Any or all bids may be rejected if there is a sound documented reason.

(3) Procurement by *competitive proposals.* The technique of competitive proposals is normally conducted with more than one source submitting an offer, and either a fixed-price or cost-reimbursement type contract is awarded. It is generally used when conditions are not appropriate for the use of sealed bids. If this method is used, the following requirements apply:

(i) Requests for proposals will be publicized and identify all evaluation factors and their relative importance. Any response to publicized requests for proposals shall be honored to the maximum extent practical;

(ii) Proposals will be solicited from an adequate number of qualified sources;

(iii) Grantees and subgrantees will have a method for conducting technical evaluations of the proposals received and for selecting awardees;

(iv) Awards will be made to the responsible firm whose proposal is most advantageous to the program, with price and other factors considered; and

(v) Grantees and subgrantees may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services whereby competitors' qualifications are evaluated and the most qualified competitor is selected, subject to negotiation of fair and reasonable compensation. The method, where price is not used as a selection factor, can only be used in procurement of A/E professional services. It cannot be used to purchase other types of services though A/E firms are a potential source to perform the proposed effort.

(4) Procurement by *noncompetitive proposals* is procurement through solicitation of a proposal from only one source, or after solicitation of a number of sources, competition is determined inadequate.

(i) Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and one of the following circumstances applies:

(A) The item is available only from a single source;

(B) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(C) The awarding agency authorizes noncompetitive proposals; or

(D) After solicitation of a number of sources, competition is determined inadequate.

(ii) Cost analysis, i.e., verifying the proposed cost data, the projections of the data, and the evaluation of the specific elements of costs and profits, is required.

(iii) Grantees and subgrantees may be required to submit the proposed procurement to the awarding agency for pre-award review in accordance with paragraph (g) of this section.

(e) *Contracting with small and minority firms, women's business enterprise and labor surplus area firms.* (1) The grantee and subgrantee will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

(2) Affirmative steps shall include:

(i) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;

(ii) Assuring that small and minority businesses, and women's business enterprises are solicited whenever they are potential sources;

(iii) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority business, and women's business enterprises;

(iv) Establishing delivery schedules, where the requirement permits, which encourage participation by small and minority business, and women's business enterprises;

(v) Using the services and assistance of the Small Business Administration, and the Minority Business Development Agency of the Department of Commerce; and

(vi) Requiring the prime contractor, if subcontracts are to be let, to take the affirmative steps listed in paragraphs (e)(2) (i) through (v) of this section.

(f) *Contract cost and price.* (1) Grantees and subgrantees must perform a cost or price analysis in connection with every procurement action including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, grantees must make independent estimates before receiving bids or proposals. A cost analysis must be performed when the offeror is required to submit the elements of his estimated cost, e.g., under professional, consulting, and architectural engineering services contracts. A cost analysis will be necessary when adequate price competition is lacking, and for sole source procurements, including contract modifications or change orders, unless price resonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or based on prices set by law or regulation. A price analysis will be used in all other instances to determine the reasonableness of the proposed contract price.

(2) Grantees and subgrantees will negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration will be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

(3) Costs or prices based on estimated costs for contracts under grants will be allowable only to the extent that costs incurred or cost estimates included in negotiated prices are consistent with Federal cost principles (see § 13.22). Grantees may reference their own cost principles that comply with the applicable Federal cost principles.

(4) The cost plus a percentage of cost and percentage of construction cost methods of contracting shall not be used.

(g) *Awarding agency review.* (1) Grantees and subgrantees must make available, upon request of the awarding agency, technical specifications on proposed procurements where the awarding agency believes such review is needed to ensure that the item and/or service specified is the one being proposed for purchase. This review generally will take place prior to the time the specification is incorporated into a solicitation document. However, if the grantee or subgrantee desires to have the review accomplished after a solicitation has been developed, the awarding agency may still review the specifications, with such review usually limited to the technical aspects of the proposed purchase.

(2) Grantees and subgrantees must on request make available for awarding agency pre-award review procurement documents, such as requests for proposals or invitations for bids, independent cost estimates, etc. when:

(i) A grantee's or subgrantee's procurement procedures or operation fails to comply with the procurement standards in this section; or

(ii) The procurement is expected to exceed the simplified acquisition threshold and is to be awarded without competition or only one bid or offer is received in response to a solicitation; or

(iii) The procurement, which is expected to exceed the simplified acquisition threshold, specifies a "brand name" product; or

(iv) The proposed award is more than the simplified acquisition threshold and is to be awarded to other than the apparent low bidder under a sealed bid procurement; or

(v) A proposed contract modification changes the scope of a contract or increases the contract amount by more than the simplified acquisition threshold.

(3) A grantee or subgrantee will be exempt from the pre-award review in paragraph (g)(2) of this section if the awarding agency determines that its procurement systems comply with the standards of this section.

(i) A grantee or subgrantee may request that its procurement system be reviewed by the awarding agency to determine whether its system meets these standards in order for its system to be certified. Generally, these reviews shall occur where there is a continuous high-dollar funding, and third-party contracts are awarded on a regular basis.

(ii) A grantee or subgrantee may self-certify its procurement system. Such self-certification shall not limit the awarding agency's right to survey the system. Under a self-certification procedure, awarding agencies may wish to rely on written assurances from the grantee or subgrantee that it is complying with these standards. A grantee or subgrantee will cite specific procedures, regulations, standards, etc., as being in compliance with these requirements and have its system available for review.

(h) *Bonding requirements.* For construction or facility improvement contracts or subcontracts exceeding the simplified acquisition threshold, the awarding agency may accept the bonding policy and requirements of the grantee or subgrantee provided the awarding agency has made a determination that the awarding agency's interest is adequately protected. If such a determination has not been made, the minimum requirements shall be as follows:

(1) *A bid guarantee from each bidder equivalent to five percent of the bid price.* The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

(2) *A performance bond on the part of the contractor for 100 percent of the contract price.* A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

(3) *A payment bond on the part of the contractor for 100 percent of the contract price.* A "payment bond" is one executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.

(i) *Contract provisions.* A grantee's and subgrantee's contracts must contain provisions in paragraph (i) of this section. Federal agencies are permitted to require changes, remedies, changed conditions, access and records retention, suspension of work, and other clauses approved by the Office of Federal Procurement Policy.

(1) Administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate. (Contracts more than the simplified acquisition threshold)

(2) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

(3) Compliance with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Department of Labor regulations (41 CFR chapter 60). (All construction contracts awarded in excess of $10,000 by grantees and their contractors or subgrantees)

(4) Compliance with the Copeland "Anti-Kickback" Act (18 U.S.C. 874) as supplemented in Department of Labor regulations (29 CFR Part 3). (All contracts and subgrants for construction or repair)

(5) Compliance with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by Department of Labor regulations (29 CFR part 5). (Construction contracts in excess of $2000 awarded by grantees and subgrantees when required by Federal grant program legislation)

(6) Compliance with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR Part 5). (Construction contracts awarded by grantees and subgrantees in excess of $2000, and in excess of $2500 for other contracts which involve the employment of mechanics or laborers)

(7) Notice of awarding agency requirements and regulations pertaining to reporting.

(8) Notice of awarding agency requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.

(9) Awarding agency requirements and regulations pertaining to copyrights and rights in data.

(10) Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.

(11) Retention of all required records for three years after grantees or subgrantees make final payments and all other pending matters are closed.

(12) Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15). (Contracts, subcontracts, and subgrants of amounts in excess of $100,000)

(13) Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).

[53 FR 8078, 8087, Mar. 11, 1988, as amended at 60 FR 19639, 19645, Apr. 19, 1995]

APPENDIX E

REPORTS

- Lead Detective – Lead Based Paint Report of 1219 First Street dated March 14, 2015
- AEC – Pre-construction Asbestos Survey Historical Library Building dated March 23, 2015
- NDP – Assessment Report for Historic Goodman Library dated April 14, 2015
- ZFA – Goodman Library Post Napa Earthquake Assessment dated August 7, 2015
- NDP – Assessment Report for Historic Goodman Library (update) dated February 8, 2016

The Lead Detective Agency
Paint Inspections for your home, school or business

LEAD-BASED PAINT SURVEY REPORT

OF

1219 FIRST STREET
NAPA, CALIFORNIA

ID NO. 150311 A

March 14, 2015

Prepared For:

Stephen Cuddy
Napa Design Partners

Prepared By:

Jeff Van Slooten
State Certified Lead Inspector/ Risk Assessor #I-2541

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LEAD-BASED PAINT SURVEY REPORT

FOR

1219 First Street
Napa, CA

ID NO. 150311 A

1.0 INTRODUCTION

This report presents the results of a lead-based paint survey for the interior of a public library office building at 1219 First Street, Napa, California (Site). The Lead Detective Agency performed the survey on March 11, 2015, using modified EPA and HUD guidelines for testing with an X-ray fluorescence analyzer (XRF). **Results indicated lead-based paint detected by XRF on interior plaster walls, a few painted and a few stained wood components. This is a positive lead initial determination for Cal/OSHA and will require Cal-OSHA pre-job notification. All separated paint chips and dust is presumed to be hazardous waste for lead upon removal.** Variances from the federal guidelines and the impact on the findings are noted in the report. This survey was performed per the direction of Stephen Cuddy, Napa Design Partners, Napa (Client). This document is prepared for the sole use of the Client. No other party should rely on the information contained herein without permission of the Client. The scope of services, inspection methodology, and results are presented below.

2.0 SCOPE OF WORK

The goal of this survey is to identify and assess the lead-based paint present on painted components at the specified building prior to repairing the interior from earthquake damage. The Client's use of this report is for identifying the relative levels of lead-based paint on major architectural components and on painted surfaces in less than intact condition.

3.0 REGULATORY GUIDELINES

To use as a reference, the EPA/HUD/CDPH action level for lead-based paint is 1.0 mg/cm^2 by XRF or 5000 mg/kg by laboratory analysis. This definition is used for triggering the EPA RRP Rule, EPA lead real estate disclosure law, CDPH regulations if permanently abating lead-based paint, and Cal OSHA notification requirement. However, the definition for lead-based paint may be irrelevant if the purpose of the survey is for establishing worker safety and construction debris disposal requirements.

If you are performing a project with the intent to use permanent controls to abate lead-based paint or lead hazards, you must comply with California's work practice regulations for lead-

related construction (Title 17, CCR, Sections 36000 and 36100) including notifying CDPH of abatement activities by submitting Form 8551 to CDPH at least five (5) days prior to beginning work (http://www.cdph.ca.gov/programs/CLPPB/Documents/DPH8551-3.pdf)

U.S. EPA Renovation, Repair, and Painting (RRP) Rule and CDPH, under Title 17, CCR, section 36100 et.seq., which requires that work being conducted in a residential or public building must have containment for lead-based paint and that it does not result in creating a lead hazard in non-work areas and ensure no lead dust hazard remains after completion. There is no *de minimis* exemption as listed in federal regulations.

Another criteria is the California OSHA, Title 8, CCR, Section 1532.1 which establishes work practice standards by comparing the level of lead in the material being handled and airborne lead levels. Therefore, any minimum or detectable level of lead requires there to be a worker protection program; however, it is based on the worker activity. Laboratory analysis is required to verify the absence of lead. However, this survey can determine if lead-based paint is present to assist an employer if they must submit Cal OSHA's Lead-Work Pre-Job Notification at least 24 hours before beginning work.

A final reference is the State Title 22 hazardous waste regulations. All separated lead-based paint chips greater than 1,000 mg/kg total lead must be handled as a State hazardous waste. Any component containing paint over these hazardous waste levels should be tested to determine if the **entire** component could be hazardous waste. Federal TCLP and State STLC hazardous waste testing should also be considered in classifying the final waste stream. An XRF measures in weight of lead per surface area of material, while hazardous waste values are in weight of lead per weight of material. Therefore, XRF results cannot be correlated to hazardous waste criteria and requires laboratory analysis.

3.0 PROPERTY DESCRIPTION

The Site is an occupied historical library building. The Client states the construction date is 1901. The exterior walls are unpainted stone. Windows are metal casement, sent in original frame. Doors, door and window trim, baseboards and chair rails are mostly stained wood. Walls and ceilings are painted plaster. A rear addition has been added to first and second floors.

4.0 QUALIFICATIONS

Jeff Van Slooten of The Lead Detective Agency performed the survey at the Residence using a RMD Model LPA-1 X-Ray Fluorescence (XRF) spectrum analyzer instrument (Serial No.2750). He has attended the radiation safety course for handling the RMD instrument, and completed an U.S. EPA sponsored curriculum in Lead Inspector and Risk Assessment Training. He is currently certified (expiration July 11, 2014) by the California Department of Public Health, Childhood Lead Poisoning Branch as an Inspector/Risk Assessor (#I 2541).

5.0 METHOD OF TESTING

Painted surfaces identified by the Client were tested for lead by taking field measurements with an X-ray fluorescence (XRF) analyzer. The XRF is a RMD LPA-1B, version 4.0, and was re-sourced (L5-684) on August 15, 2014. The instrument was calibrated to the manufacturer's specifications and periodically rechecked against the National Institute of Standards and Technology (NIST) Standard Reference Material (SRM) 2579 lead film (1.0 mg/cm^2). The instrument was in-control at all times for the wood zero standard and the NIST SRM lead standard.

6.0 TESTING PROTOCOL

Each component was tested using the HUD guidelines, as published in October 1997. One reading was taken on each component requested by the Client. However, the Client, requested to the deviation from HUD guidelines by performing a lead-based paint survey of the Residence instead of a lead-based paint inspection. HUD and EPA have not defined a lead-based paint survey. EPA regulations, HUD guidelines, and Title 17, California Code of Regulations (CCR) requires that an inspection, conducted by a certified inspector, test <u>all</u> painted surfaces in every room or area of the Site.

The objective of this survey was to determine the relative level of lead-based paint on the majority of painted components. The Client was interested in testing representative painted surface areas and in determining relative lead levels. The Client was informed that there could be variability in the level of lead among similar components based on past paint history. Also, the location on the component where the reading is taken can lead to misrepresentation of lead concentrations. These variations can be missed without a large database collected from a full inspection. However, sufficient XRF readings were taken to show consistency among large surface area components.

The identification system for the tested components is as follows. For the exterior, the street side is designated as Side A and the other sides are lettered in a clockwise fashion. The interior locations use the identical method with the wall nearest the street as Side A. Similar components on the same side are numbered from left to right.

7.0 SITE SPECIFIC OBSERVATIONS

The interior plaster of the building is intact, except in areas where earthquake damage has caused cracking and damaged paint. Closet 1 door and trim had chipped paint.

8.0 SUMMARY OF RESULTS

Lead-based paint (greater than 600 mg/kg lead) was discontinued for residential and public use by 1978. Therefore, construction before that date may have layers of lead-based paint. A floor plan for the Residence is shown in Figure 1. XRF results are presented by reading location (Table 1) and positive readings are indicated in bold. A floor plan for the rooms tested of the Residence is shown in Figure 1 and positive readings are indicated on the floor plan. Non-tested components should be presumed positive until tested otherwise.

Positive XRF Results

Some of the components, which are found positive, may have similar component types within the same room equivalent. These similar components are assumed to contain the same paint history and are therefore assumed positive by association.

Plaster Walls and Ceilings– Painted plaster walls and ceilings throughout the building contains lead-based paint. Walls appear to have an original plaster coating with high lead levels, and the outer skim coating with lower levels.

Closet 1 components – All painted components, including walls, ceiling, door, door trim and window trim contain lead-based paint.

1st and 2nd Floor Rear Door jamb and transom window – Painted door jamb, transom window and trim contains lead-based paint.

Library Rear Door stained door trim– Stained door jamb meets the definition of lead-based paint.

Closet 2 Stained Floor – The stain on the floors meets the definition of lead-based paint.

Exterior Window sills – Only one Original window opening was available to test, and found the window casing contains lead-based paint.

The values below 0.0 mg/cm^2 shown for XRF readings may be accounted for since XRF analysis is a statistical representation of the amount of lead on a substrate. Statistically, there are negative values for a Gaussian distribution around zero.

9.0 RECOMMENDATIONS

The purpose of the survey was to determine the condition and relative lead-based paint and other hazardous material levels on various components at the Site for surface preparation purposes. This survey concludes that **lead-based paint** is present **on interior and exterior components of the building and will trigger a Cal OSHA notification if there is more than 100 square or**

linear feet disturbed. **Loose lead paint chips and dust bag from the HEPA- vacuum cleaner should be collected and handled as a hazardous waste, following proper hazardous waste disposal requirement. Bulk waste material should be tested for hazardous waste classification.**

The following work items can be assisted by The Lead Detective Agency (LDA).

1. These surfaces could cause lead hazards during surface preparation and may require OSHA notification before beginning work. All workers on site disturbing painted surfaces must comply with the OSHA Lead-in-Construction standard, including signage to notify occupants of buildings. Air monitoring can be conducted by LDA

2. Scraping of loose lead-based paint makes it prudent to spray these surfaces with water during disturbance to reduce fugitive lead dust.

3. Since lead-based paint was detected, a hazardous waste evaluation of the paint chip and bulk debris is needed or should be assumed for disposal. The ideal time for the collection of hazardous waste samples is after project completion so accurate proportions of all materials can be collected or an assumption from current analyses is used.

4. It is also recommended to have a clearance inspection of interior surfaces by LDA following removal of the debris to verify no lead dust hazards remain.

In addition to the above recommendations, additional information on managing lead-based paint can be obtained from the California Department of Public Health Services (CDPH) webpage (http://www.cdph.ca.gov/childlead), U.S. Housing and Urban Development webpage (www.hud.gov/offices/lead), and the U.S. Environmental Protection Agency webpage (www.epa.gov/lead). Telephone information can be obtained from CDPH (800-597-LEAD), and the National Lead Information Council (800-424-LEAD). The booklets "Reducing Lead Hazards When Remodeling Your Home" and "Lead Paint Safety" provide many good tips before disturbing paint in your home.

A lead hazard control plan, prepared by a state-certified lead professional, can identify abatement or interim controls (temporary) methods, proper techniques, and worker and occupant protection. State-certified lead workers and supervisors are trained to contain any lead hazards when disturbing lead-based painted surfaces. In addition, all contractors are now required to disclose to the occupants the dangers of lead-based paint when disturbing more than two square feet of painted area.

10.0 INSPECTION LIMITATIONS

A survey cannot draw absolute conclusions for all components within a building. Also, the sampling pool for components was limited and does not have high statistical confidence for each component without performing a full HUD inspection. Laboratory confirmation if requested, for hazardous waste determination, may be conducted on the positive and low readings where the paint was in poor condition. XRF results do not confirm the absence of lead for OSHA requirements and require verification by laboratory analysis. This is accomplished by collecting representative chip samples from those components. The samples would be tested for lead by laboratory analysis.

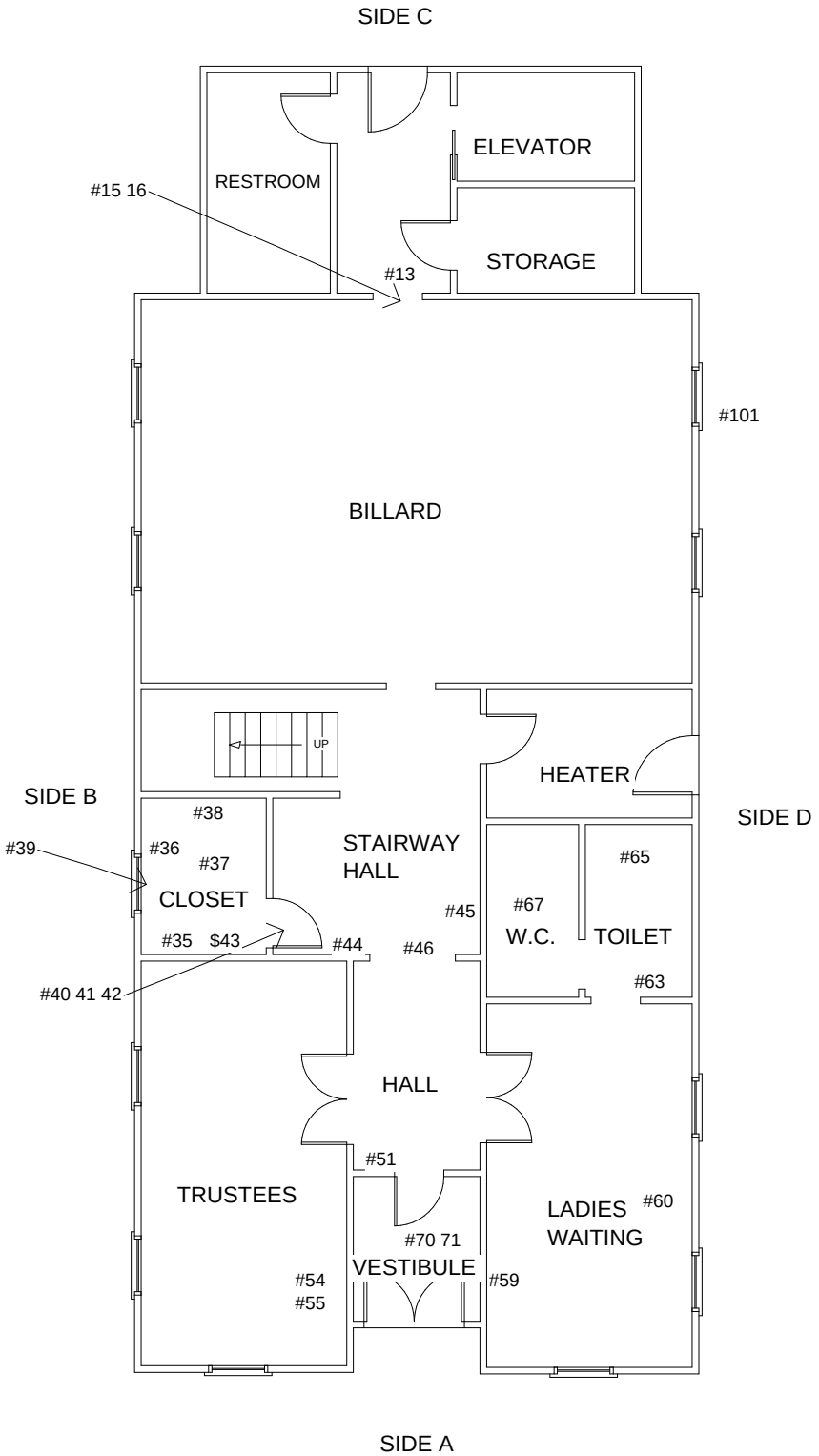
This limited inspection was planned, developed, and implemented based on the experience in performing lead based paint surveys by The Lead Detective Agency. This survey was conducted in accordance with HUD guidelines, where applicable. The Lead Detective Agency utilized state-of-the-art practices and techniques in accordance with regulatory standards while performing this inspection. Copies of personnel certifications and equipment licenses are maintained in the office and are available for your review upon request. The Lead Detective Agency's evaluation of the relative risk of exposure to the level of lead identified during this limited survey is based on conditions observed at the time of the inspection and the limited surfaces tested. The Lead Detective Agency cannot be responsible for exposure to surfaces not inspected or tested during this survey. Also, The Lead Detective Agency cannot be responsible for changing conditions that may alter the relative exposure risk or for future changes in accepted methodology.

11.0 REQUIRED LANGUAGE PER HUD GUIDELINES (*FOR RESIDENTIAL PROPERTY*)

Since lead-based paint was identified on the site, a copy of this report or a summary must be provided to new lessees (tenants) and purchasers of this property under Federal law (Title 24 Code of Federal Regulations part 35 and Title 40 Code of Federal Regulations part 745) before they become obligated under a lease or sales contract. The complete report must also be provided to new purchasers and it must be made available to new tenants. Landlords (lessors) and sellers are also required to distribute an educational pamphlet and include warning language in their leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards.

The Lead Detective Agency

FIRST FLOOR
1219 FIRST STREET
NAPA, CA

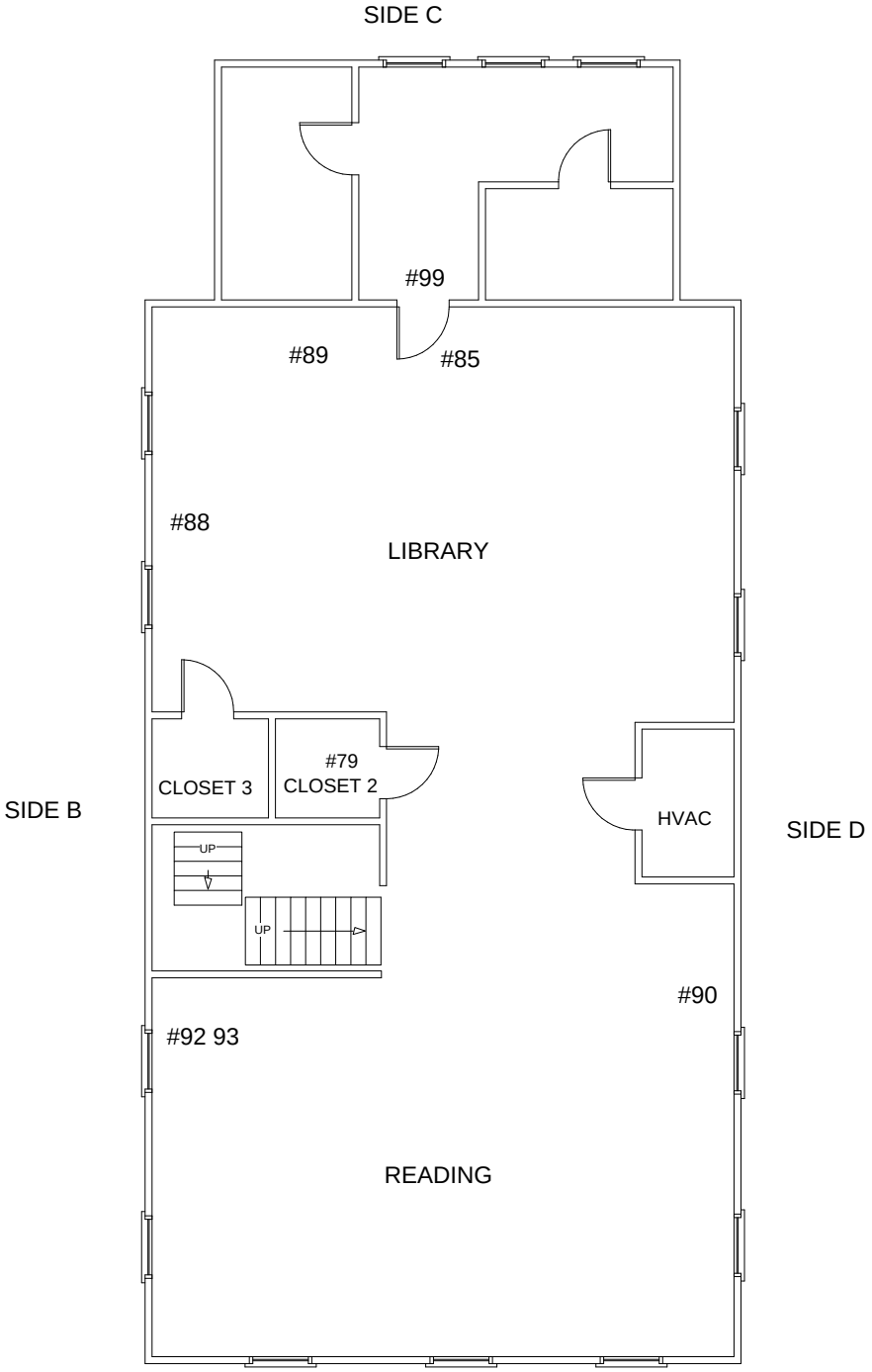


= XRF POSITIVE

INSPECTED BY
THE LEAD DETECTIVE AGENCY
SACRAMENTO, CA
MARCH 11, 2015

The Lead Detective Agency

SECOND FLOOR
1219 FIRST STREET
NAPA, CA



= XRF POSITIVE

SIDE A

INSPECTED BY
THE LEAD DETECTIVE AGENCY
SACRAMENTO, CA
MARCH 11, 2015

PROJECT: 1219 1st Street
LOCATION: Napa, CA

Table 1-Lead XRF Results

INSPECTION: March 11, 2015

The Lead Detective Agency

FIELD DATA REPORT

Sample ID	Location	Side	Component		Item	Substrate	Color*	XRF Reading	Result	Paint Condition	Comments
01	Calibration		Blank					-0.2	Accept		
02	Calibration		Blank					-0.1	Accept		
03	Calibration		Blank					-0.3	Accept		
04	Calibration		Std.		1.0			0.8	Accept		
05	Calibration		Std.		1.0			0.9	Accept		
06	Calibration		Std.		1.0			0.9	Accept		
07	Restroom	B	Wall			Gypsum		-0.4	NEG		
08	Restroom	C	Wall			Gypsum		-0.2	NEG		
09	Restroom		Ceiling			Gypsum		-0.1	NEG		
10	Restroom	D	Door			Wood		-0.2	NEG		
11	Restroom	D	Door		casing	Wood		-0.2	NEG		
12	Restroom	D	Wall		lower	Tile		-0.4	NEG		
13	**Back Entry**	**A**	**Door**		**jamb**	**Wood**	**White**	**>9.9**	**POS**	**Intact**	
14	Back Entry	A	Door		stop	Wood		0.0	NEG		
15	**Back Entry**	**A**	**Transom Wndw**		**sill**	**Wood**	**White**	**9.4**	**POS**	**Intact**	
16	**Back Entry**	**A**	**Transom Wndw**		**sash**	**Wood**	**White**	**5.8**	**POS**	**Intact**	
17	Back Entry	B	Wall			Gypsum		-0.1	NEG		
18	Back Entry	D	Wall			Gypsum		-0.2	NEG		
19	Back Entry		Ceiling			Gypsum		-0.2	NEG		
20	Back Entry	C	Door			Wood		-0.2	NEG		
21	Back Entry	C	Door		casing	Wood		-0.3	NEG		
22	Back Entry	C	Door		jamb	Wood		-0.2	NEG		
23	Back Entry	B	Wall		baseboard	Wood		0.0	NEG		
24	Billard	C	Wall			Gypsum		-0.3	NEG		
25	Billard	D	Wall			Gypsum		-0.6	NEG		
26	Billard	A	Wall			Wood		-0.4	NEG		
27	Billard	A	Wall		chair rail	Wood		-0.2	NEG		
28	Billard	B	Window	1	jamb	Wood		-0.1	NEG		
29	Billard	B	Window	1	sill	Wood		-0.1	NEG		
30	Billard	B	Window	1	sash	Metal		-0.4	NEG		
31	Billard		Post		chair rail	Wood		-0.3	NEG		
32	Heater	B	Door		jamb	Wood		0.1	NEG		
33	Heater	B	Door		sill	Wood		-0.2	NEG		
34	Heater	D	Door		sash	Wood		-0.2	NEG		
35	**Closet 1**	**A**	**Wall**			**Plaster**	**Yellow**	**>9.9**	**POS**	**Deteriorated**	**damaged**
36	**Closet 1**	**B**	**Wall**			**Plaster**	**Yellow**	**>9.9**	**POS**	**Intact**	
37	**Closet 1**		**Ceiling**			**Plaster**	**Yellow**	**9.0**	**POS**	**Intact**	
38	**Closet 1**	**C**	**Wall**		**panel**	**Wood**	**Yellow**	**>9.9**	**POS**	**Deteriorated**	**chipping**
39	**Closet 1**	**B**	**Window**		**casing**	**Wood**	**Yellow**	**>9.9**	**POS**	**Intact**	
40	**Closet 1**	**D**	**Door**			**Wood**	**Yellow**	**>9.9**	**POS**	**Deteriorated**	**chipping**
41	**Closet 1**	**D**	**Door**		**casing**	**Wood**	**Yellow**	**>9.9**	**POS**	**Deteriorated**	**chipping**
42	**Closet 1**	**D**	**Door**		**stop**	**Wood**	**Yellow**	**>9.9**	**POS**	**Deteriorated**	**chipping**
43	**Closet 1**	**A**	**Mirror**		**casing**	**Wood**	**Yellow**	**>9.9**	**POS**	**Intact**	
44	**Stairway Hall**	**A**	**Wall**			**Plaster**	**Yellow**	**1.0**	**POS**	**Deteriorated**	**damaged**
45	**Stairway Hall**	**D**	**Wall**			**Plaster**	**Yellow**	**1.4**	**POS**	**Deteriorated**	**damaged**
46	**Stairway Hall**	**A**	**Arch**		**ornament**	**Plaster**	**Yellow**	**1.8**	**POS**	**Deteriorated**	**damaged**
47	Stairway Hall	C	Door		casing	Wood		0.4	NEG		
48	Stairway Hall	C	Wall		chair rail	Wood		-0.1	NEG		
49	Stairway Hall	B	Wall		baseboard	Wood		-0.1	NEG		
50	Stairway Hall	B	Stairs		riser	Wood		-0.1	NEG		
51	**Hall**	**A**	**Wall**			**Plaster**	**Yellow**	**1.6**	**POS**	**Deteriorated**	**cracking**
52	Hall	D	Door			Wood		0.1	NEG		
53	Trustee	A	Wall			Wood		-0.5	NEG		
54	**Trustee**	**D**	**Wall**		**outer coat**	**Plaster**	**Yellow**	**1.7**	**POS**	**Deteriorated**	**damaged**
55	**Trustee**	**D**	**Wall**		**inner coat**	**Plaster**	**Tan**	**4.0**	**POS**	**Unknown**	
56	Trustee	B	Window	2	sill	Wood		0.0	NEG		
57	Trustee	B	Window	2	sash	Wood		-0.4	NEG		

HUD action level for lead-based paint is 1.0 mg/cm^2
* Color indicated for XRF positives

PROJECT: 1219 1st Street
LOCATION: Napa, CA

Table 1-Lead XRF Results

INSPECTION: March 11, 2015

The Lead Detective Agency

FIELD DATA REPORT

Sample ID	Location		Side	Component		Item	Substrate	Color*	XRF Reading	Result	Paint Condition	Comments
58	Trustee		B	Window	2	jamb	Wood		-0.1	NEG		
59	**Ladies Waiting**		**B**	**Wall**			**Plaster**	**Yellow**	**1.0**	**POS**	**Intact**	
60	**Ladies Waiting**		**C**	**Wall**			**Plaster**	**Yellow**	**2.3**	**POS**	**Deteriorated**	**damaged**
61	Ladies Waiting		B	Door			Wood		-0.1	NEG		
62	Ladies Waiting		D	Window	1	casing	Wood		0.1	NEG		
63	**Toilet Room**		**A**	**Wall**			**Plaster**	**Yellow**	**2.9**	**POS**	**Deteriorated**	**damaged**
64	Toilet Room			Ceiling			Plaster		-0.4	NEG		
65	**Toilet Room**		**C**	**Wall**			**Plaster**	**Yellow**	**4.2**	**POS**	**Deteriorated**	**damaged**
66	Toilet Room			Ceiling			Plaster		-0.3	NEG		
67	**Toilet Room**		**B**	**Closet**		**ceiling**	**Plaster**	**Yellow**	**3.0**	**POS**	**Deteriorated**	**damaged**
68	Toilet Room		A	Door			Wood		-0.2	NEG		
69	Toilet Room		D	Window		casing	Wood		0.0	NEG		
70	**Vestible**		**A**	**Wall**			**Plaster**	**Yellow**	**4.6**	**POS**	**Intact**	
71	**Vestible**		**C**	**Wall**			**Plaster**	**Yellow**	**5.6**	**POS**	**Intact**	
72	Vestible		C	Door			Wood		-0.3	NEG		
73	Vestible		D	Wall		chair rail	Wood		0.2	NEG		
74	Vestible			Floor			Tile		-0.5	NEG		
75	Closet	2	A	Wall			Plaster		-0.3	NEG		
76	Closet	2	C	Wall			Plaster		-0.3	NEG		
77	Closet	2	D	Door		casing	Wood		-0.1	NEG		
78	Closet	2	D	Door		stop	Wood		0.1	NEG		
79	**Closet**	**2**		**Floor**			**Wood**	**Brown**	**2.1**	**POS**	**Deteriorated**	**worn**
80	Closet	3		Ceiling			Gypsum		-0.3	NEG		
81	Closet	3	A	Wall			Plaster		-0.3	NEG		
82	Closet	3	C	Door		jamb	Wood		-0.1	NEG		
83	Library		C	Door			Wood		0.1	NEG		
84	Library		C	Door		casing	Wood		0.4	NEG		
85	**Library**		**C**	**Door**		**jamb**	**Wood**	**Brown**	**>9.9**	**POS**	**Intact**	
86	Library		B	Window	2	casing	Wood		0.0	NEG		
87	Library		B	Wall		baseboard	Wood		0.3	NEG		
88	**Library**		**B**	**Wall**			**Plaster**	**Yellow**	**1.5**	**POS**	**Intact**	
89	**Library**		**C**	**Wall**			**Plaster**	**Yellow**	**1.0**	**POS**	**Deteriorated**	**damaged**
90	**Reading**		**D**	**Wall**			**Plaster**	**Yellow**	**1.5**	**POS**	**Intact**	
91	Reading		A	Window	1	jamb	Wood		-0.1	NEG		
92	**Reading**		**B**	**Wall**		**outer coat**	**Wood**	**Yellow**	**1.6**	**POS**	**Deteriorated**	**damaged**
93	**Reading**		**B**	**Wall**		**inner coat**	**Wood**	**Gold**	**3.6**	**POS**	**Deteriorated**	**damaged**
94	Reading		B	Window		sill	Wood		0.0	NEG		
95	2nd Fl. Back Entry		B	Wall			Gypsum		-0.5	NEG		
96	2nd Fl. Back Entry		C	Wall			Gypsum		-0.1	NEG		
97	2nd Fl. Back Entry		C	Window		casing	Wood		-0.1	NEG		
98	2nd Fl. Back Entry		C	Window		sill	Wood		0.1	NEG		
99	**2nd Fl. Back Entry**		**A**	**Door**		**jamb**	**Wood**	**White**	**3.2**	**POS**	**Intact**	
100	2nd Fl. Back Entry		A	Door			Wood		0.0	NEG		
101	**Exterior**		**D**	**Window**	**4**	**casing**	**Wood**	**Green**	**>9.9**	**POS**	**Intact**	
102	Exterior		D	Window	4	sash	Wood		-0.3	NEG		
103	Exterior		D	Window	4	sill	Wood		0.1	NEG		
104	Addition Ext		D	Wall		siding	Wood		-0.1	NEG		
105	Addition Ext		C	Wall		siding	Wood		-0.2	NEG		
106	Calibration			Std.		1.0			0.8	Accept		
107	Calibration			Std.		1.0			0.8	Accept		
108	Calibration			Std.		1.0			0.8	Accept		

HUD action level for lead-based paint is 1.0 mg/cm^2
* Color indicated for XRF positives

LEAD HAZARD EVALUATION REPORT

Section 1 — Date of Lead Hazard Evaluation March 11, 2015

Section 2 — Type of Lead Hazard Evaluation (Check one box only)

☐ Lead Inspection ☐ Risk assessment ☐ Clearance Inspection ☑ Other (specify) Lead Survey

Section 3 — Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	Zip Code
1219 1st Street	Napa	Napa	94558

Construction date (year) of structure	Type of structure	Children living in structure?
1901	☐ Multi-unit building ☐ School or daycare ☐ Single family dwelling ☑ Other public bldg	☐ Yes ☑ No ☐ Don't Know

Section 4 — Owner of Structure (if business/agency, list contact person)

Name	Telephone number
Stephen Cuddy, Napa Design Partners	707-275-5000

Address [number, street, apartment (if applicable)]	City	State	Zip Code
855 Bordeaux Way, Suite 250	Napa	CA	94558

Section 5 — Results of Lead Hazard Evaluation (check all that apply)

☐ No lead-based paint detected ☑ Intact lead-based paint detected ☑ Deteriorated lead-based paint detected

☐ No lead hazards detected ☐ Lead-contaminated dust found ☐ Lead-contaminated soil found ☐ Other

Section 6 — Individual Conducting Lead Hazard Evaluation

Name	Telephone number
Jeff Van Slooten	(916) 481-7432

Address [number, street, apartment (if applicable)]	City	State	Zip Code
5431 Auburn Boulevard	Sacramento	CA	95841

CDPH certification number	Signature	Date
I - 2541	Jeff Van Slooten	3/15/15

Name and CDPH certification number of any other individuals conducting sampling or testing (if applicable)

RMD LPA-1B S/N 2750

Section 7 — Attachments

A. A foundation diagram or sketch of the structure indicating the specifc locations of each lead hazard or presence of lead-based paint;
B. Each testing method, device, and sampling procedure used;
C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed or faxed to:

California Department of Public Health
Childhood Lead Poisoning Prevention Branch Reports
850 Marina Bay Parkway, Building P, Third Floor
Richmond, CA 94804-6403
Fax: (510) 620-5656

ANDERSON ENVIRONMENTAL CONSULTING GROUP
3308 EL CAMINO AVENUE, SUITE 300-111
SACRAMENTO, CALIFORNIA 95821-6328

March 23, 2015

Mr. Stephen R. Cuddy
Napa Design Partners, LLP
855 Bordeaux Way, Suite 250
Napa, California 94558-7542

RE: Pre-Construction Asbestos Survey
Historical Library Building
1219 First Street, Napa, California 94558

Dear Mr. Cuddy:

On Wednesday, March 11, 2015, Mr. William W. Anderson, a Building Inspector and Management Planner certified by the United States Environmental Protection Agency ("EPA") and Certified Asbestos Consultant licensed with the California Division of Occupational Safety and Health ("Cal-OSHA") inspected the historical library building in 1219 First Street in Napa, California. The structure is scheduled for repairs following an earthquake.

The structure is a two-story stone building. Exterior walls are stone held together with mortar over a stemwall foundation. An addition, including an elevator, has been added on the north end of the building. The basement crawl space consists of stone pilings and wood framing. Uninsulated plumbing pipes are also present. Heating is supplied by a forced air unit located in the basement. This unit feeds sheet metal and flexible fiberglass ductwork.

The only interior finish to be addressed in the repair process is the painted plaster on the walls and ceilings. Seven (7) samples of plaster were collected on the two levels of the structure.

The samples were delivered to A.E.S.L. Environmental Laboratory in Tempe, Arizona for analysis using Polarized Light Microscopy with dispersion staining to estimate percent composition by volume. A.E.S.L. Environmental Laboratory participates in the bulk sample proficiency analysis program conducted by the United States Environmental Protection Agency and is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) conducted by the National Institute of Standards and Technology. A.E.S.L. Environmental Laboratory is licensed by the California Department of Health Services under the Environmental Laboratory Accreditation Program ("ELAP").

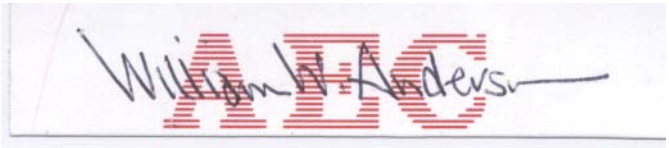
PHONE: (916) 482-2800 E-MAIL: aecsacto@att.net

Laboratory analysis detected **no asbestos present** in the materials sampled.

Copies of the laboratory report and chain-of-custody documentation and floor plan diagrams are attached. Please call me if you have any questions regarding the inspection.

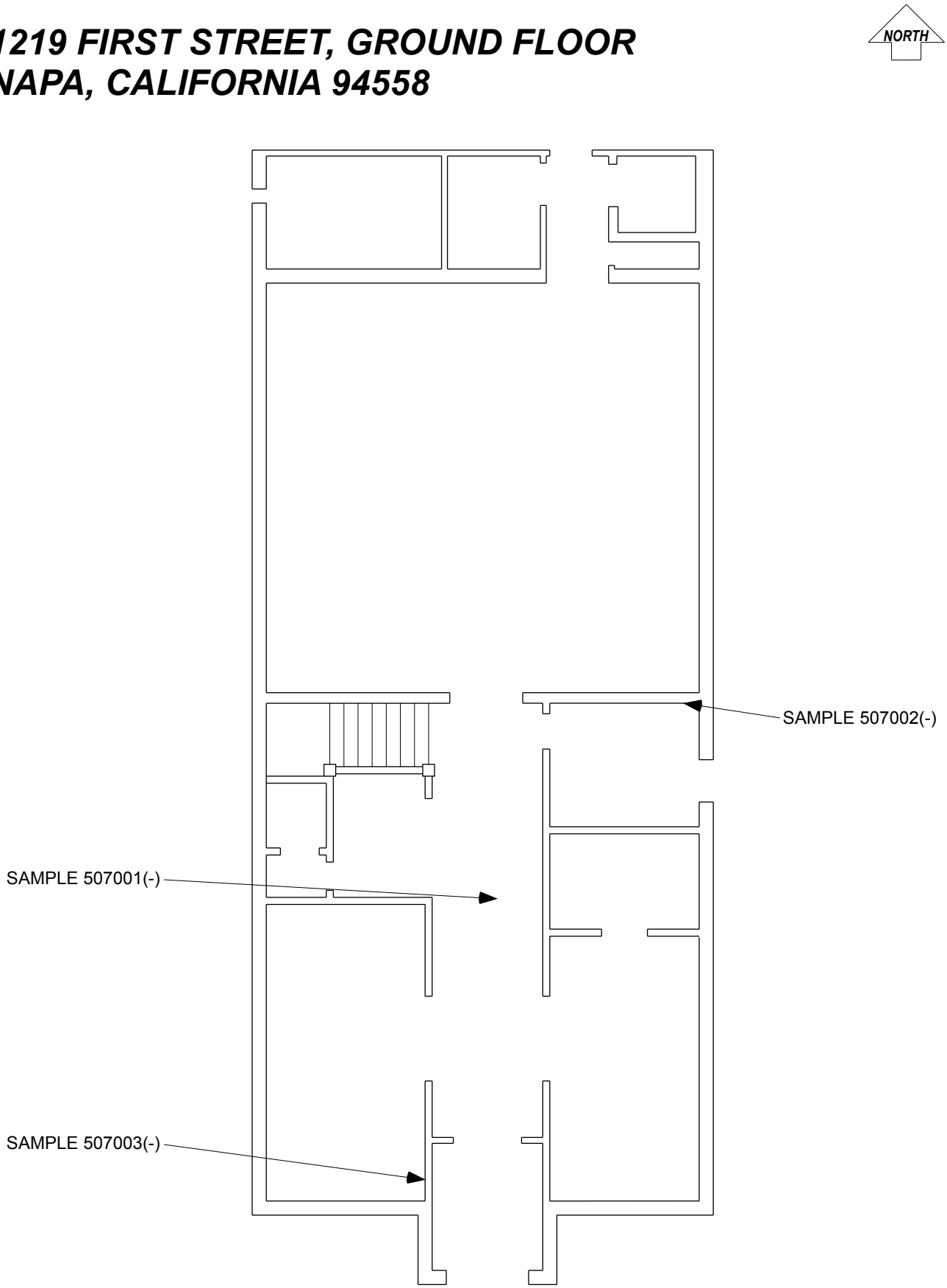
Very truly yours,

ANDERSON ENVIRONMENTAL CONSULTING GROUP



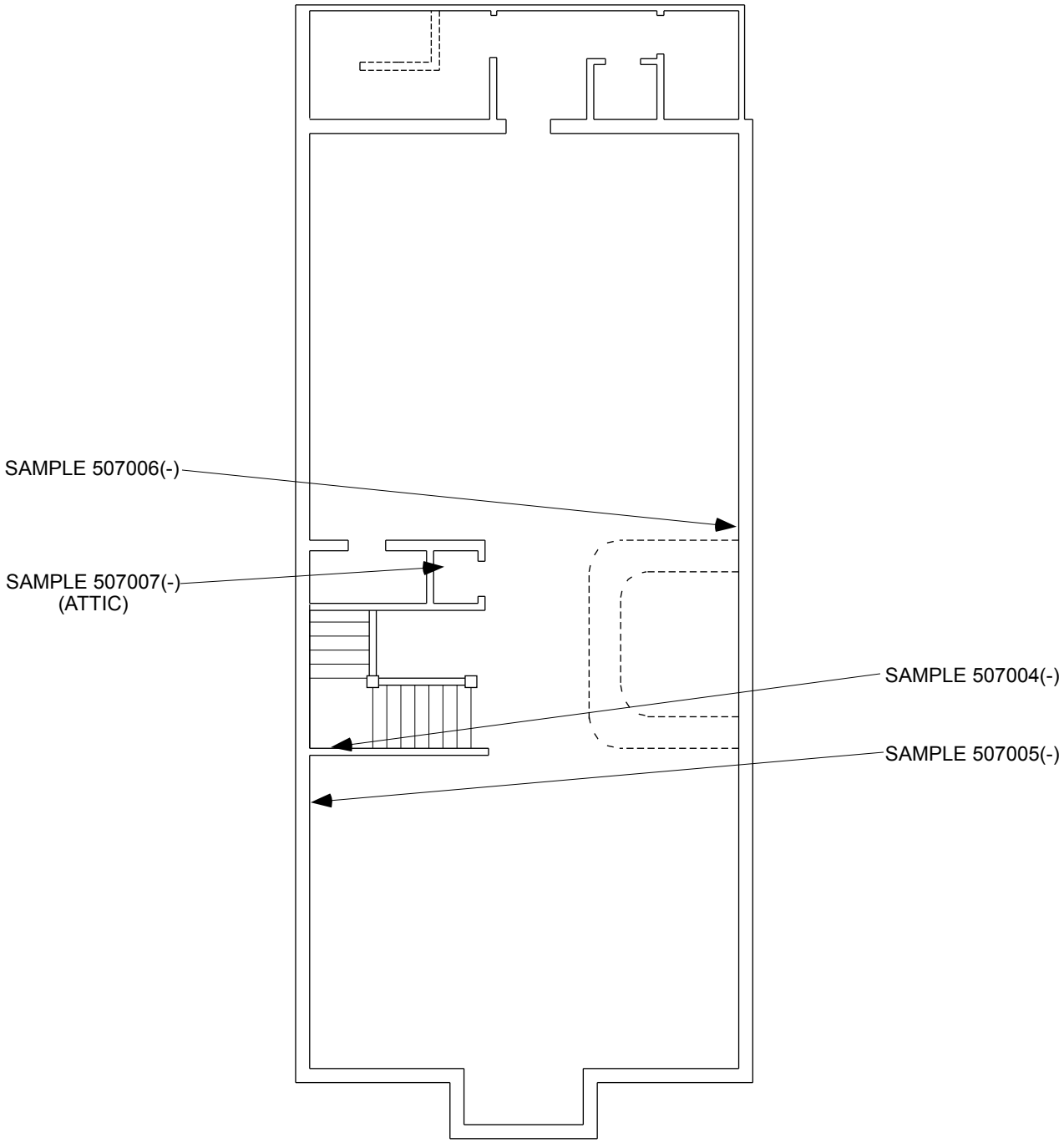
William W. Anderson
California Certified Asbestos Consultant 09-4576
Certification Expires October 15, 2015

1219 FIRST STREET, GROUND FLOOR
NAPA, CALIFORNIA 94558



NO ASBESTOS MATERIALS IN RENOVATION AREA

1219 FIRST STREET, 2nd FLOOR
NAPA, CALIFORNIA 94558



NO ASBESTOS MATERIALS IN RENOVATION AREAS

A. E. S. L.
Environmental LABORATORY

A DIVISION OF ALLEN ENVIRONMENTAL CONSULTING L.L.C.
800 North Mary Street • Tempe, Arizona 85281
(480) 966-3715 • Fax (480) 394-0188

BULK ASBESTOS ANALYSIS SUMMARY REPORT

CLIENT NAME: Anderson Environmental Consulting Group
3308 El Camino Avenue, Suite 300-111
Sacramento, California 95821

DATE OF RECEIPT: March 12, 2015
SAMPLE CONDITION: Good
DATE ANALYZED: March 12, 2015

A.E.S.L. LABORATORY #: 15-A230

PROJECT: 1219 First Street, Napa, Ca. 94558

A.E.S.L. LAB SAMPLE ID #	CLIENT SAMPLE ID #	SAMPLE DESCRIPTION & COLOR	TEST RESULTS Pos. / n.d..	% & Type	OTHER MATERIALS
A230-1	507001a	Tan Paint	n.d.	---------	100% Non-Fibrous
	507001b	Gray Plaster	n.d.	---------	3% Cellulose 97% Non-Fibrous
A230-2	507002a	Tan Paint	n.d.	---------	100% Non-Fibrous
	507002b	Gray Plaster	n.d.	---------	3% Cellulose 97% Non-Fibrous
A230-3	507003a	Tan Paint	n.d.	---------	100% Non-Fibrous
	507003b	Gray Plaster	n.d.	---------	3% Cellulose 97% Non-Fibrous
A230-4	507004a	Tan Paint	n.d.	---------	100% Non-Fibrous
	507004b	Gray Plaster	n.d.	---------	3% Cellulose 97% Non-Fibrous
A230-5	507005a	Tan Paint	n.d.	---------	100% Non-Fibrous
	507005b	Gray Plaster	n.d.	---------	3% Cellulose 97% Non-Fibrous
A230-6	507006a	Tan Paint	n.d.	---------	100% Non-Fibrous
	507006b	Gray Plaster	n.d.	---------	3% Cellulose 97% Non-Fibrous
A230-7	507007a	Tan Paint	n.d.	---------	100% Non-Fibrous
	507007b	Gray Plaster	n.d.	---------	3% Cellulose 97% Non-Fibrous

n.d. = Non Detect

Method: Polarized Light Microscopy, EPA Method 600/R-93/116

The result quantitations reported are an estimation based on the methods of visual microscopic estimation, which is considered only a semi-quantitative technique. Also, this report is indicative only of the sample material A.E.S.L. Laboratory received. Results do not necessarily reflect the makeup of the entire span of the material from which the samples were derived. Sampling techniques and/or sample handling may affect the integrity of the sample/s before submission to A.E.S.L. Laboratory and hence the outcome of the laboratory results. Samples not destroyed by testing are retained a minimum of thirty days. A.E.S.L. Laboratory, recommends re-analysis by point count or Transmission Electron Microscopy (TEM) for materials that are identified to contain less than ten percent (<10%) asbestos by PLM.

This report cannot be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without the written consent of A.E.S.L.

Analyzed by: Ronnie Keneson

Review and QA/QC by: Jerry A. Denton, Laboratory Director

Z:\AESL\bulk\15-a000\15-A230.doc

ANDERSON ENVIRONMENTAL CONSULTING GROUP
3308 EL CAMINO AVENUE, SUITE 300-111
SACRAMENTO, CALIFORNIA 95821-6328

March 11, 2015

A.E.S.L. Environmental Laboratory
800 North Mary Street
Tempe, Arizona 85281

15-A230

Please analyze the enclosed seven (7) bulk samples using PLM with a 24-hour turn-around time.

SPECIAL INSTRUCTIONS: If sample result by visual estimation shows an asbestos content less than 1.0%, perform point count analysis (400 grid openings) on the sample. Samples reported with asbestos content above 1.0% are assumed to contain more than 1,0% asbestos. Point count is NOT REQUIRED for "None Detected". Turn-around time for point count is 24 hours.

Project Identification: 1219 First Street, Napa, California 94558
Samples Collected: March 11, 2015

Sample ID	Location	Material
507001	1st Floor Archway	Plaster
507002	1st Floor Kitchen Wall	Plaster
507003	1st Floor Office Wall	Plaster
507004	Stairwell Wall	Plaster
507005	2nd Floor Reading Room Wall	Plaster
507006	2nd Floor Library Room Wall	Plaster
507007	Attic Wall	Plaster

Delivered to FEDEX

Date/Time: 11 MAR 2015 1600 By: WWAnderson

Received at AESL

Date/Time: 3/12/15 0930 By: Ronnie Gerson

PHONE: (916) 482-2800 E-MAIL: aecsacto@att.net

State of California
Division of Occupational Safety and Health

Certified Asbestos Consultant

William W Anderson

Name

Certification No. **09-4576**

Expires on **10/15/15**

This certification was issued by the Division of Occupational Safety and Health as authorized by Sections 7180 et seq. of the Business and Professions Code.

Napa Design Partners, LLP

City of Napa
Jacques R. LaRochelle, Public Works Director
Department of Public Works
1600 First Street
Napa, CA 94559

April 14, 2015

Attn: Mark P. Andrilla

Various City Buildings Earthquake Repair
Assessment Report for Historic Goodman Library
1219 First Street, Napa, CA 94559

Introduction:

Napa Design Partners, LLP in conjunction with ZFA Structural Engineers investigated the subject property for damage on March 3, 2015. On August 24th 2014 the City of Napa was struck by a 6.0 earthquake which damaged several stone, terra cotta and brick masonry historic structures in downtown Napa. The heavy seismically retrofitted stone masonry structures suffered significant damage due to the strength and duration of the seismic event. ZFA's structural damage report and findings are provided under separate cover.

The Historic Goodman Library dates back to 1901 and local architect Luther Turton was the designer. The exterior stone walls of the historic structure experienced a partial collapse of the front entry stone tower, displaced stones at the building's exterior corners, fractured façade stone work at higher elevations and with the loss of mortar at some joints between stone block units, may have also suffered some separation between face stone and interior stone courses. Interior plaster cracked in several locations and dislodged from the wood lath exposing the framing on interior walls. In a few areas, some of the interior metal tin ceiling tiles & trim dislodged and have been temporarily secured, some wood trim work has also shifted or detached from the wall.

On March 9th 2015 Shari Kamimori with 3DVDT scanned the exterior, interior, basement and attic areas of the building to capture existing conditions producing a 3D model for restoration and repair of the historic building.

On March 11th 2015 the lead and asbestos surveys were performed. Lead paint was identified in areas where plaster broke loose from interior walls, found on some of the existing interior wood trim work and around an exterior wood framed metal sash window. See the report prepared by Jeff Van Slooten a state certified lead inspector & risk assessor. Asbestos samples were taken from damaged areas and "no asbestos present" was stated in the report. See the report prepared by William Anderson a state certified asbestos consultant.

Our initial assessment is also considering the historic character and fabric (materials) of the existing historic structure, by the standards which historic preservation work is guided. We will prepare historic background information and recommendations to repair and restore areas damaged by the earthquake following the Secretary of Interior Standards for Historic Structures. This assessment will be reviewed by City of Napa Cultural Heritage Commission.

Exterior Damage:

Significant exterior stone damage occurred at the upper areas, the corners of building, around existing openings, and at the location of the concrete brace wall. Below are some sample illustrations where damaged occurred with descriptions of the extent of the damage.

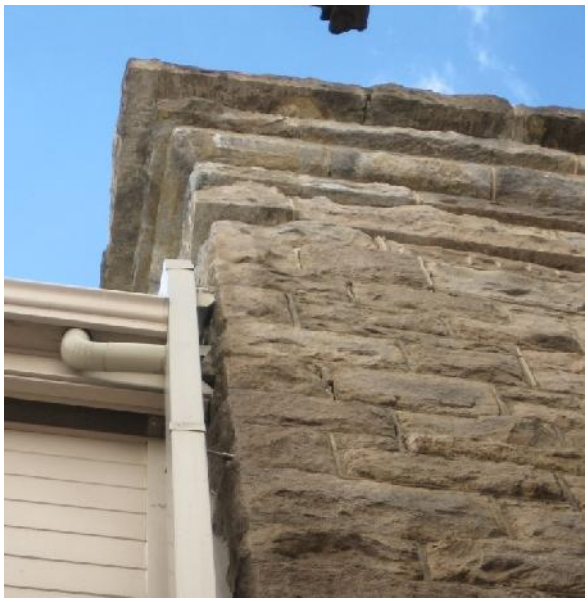
Stone Entry Tower

The adjacent photo is a view of the stone entry tower from the east side. The tower shifted and stones came loose and fell to the ground and on to the roof. The remaining stone structure is unstable as the previous seismic retrofit was severely damaged and appears to be comprised from the effects of the recent seismic event.

Initially the stone tower will be braced, secured and stabilized; in the future the standing (or remaining) portions of structure will be carefully documented and dismantled to allow safe access to repair the seismic support system, to remove the damaged stones for the future repair and restoration work.

Conceptually the repair will provide a new internal seismic bracing system, re-installation of the repaired and restored stone including a few replacement stones to replace those that were lost during the seismic event and a new waterproofing or flashing system.

Exterior Building Corners



The adjacent photo is a view of the south east corner. In general, the upper areas of each building corners experienced significant displacement, spalling of the existing stones and cracking at the existing mortar stone joints.

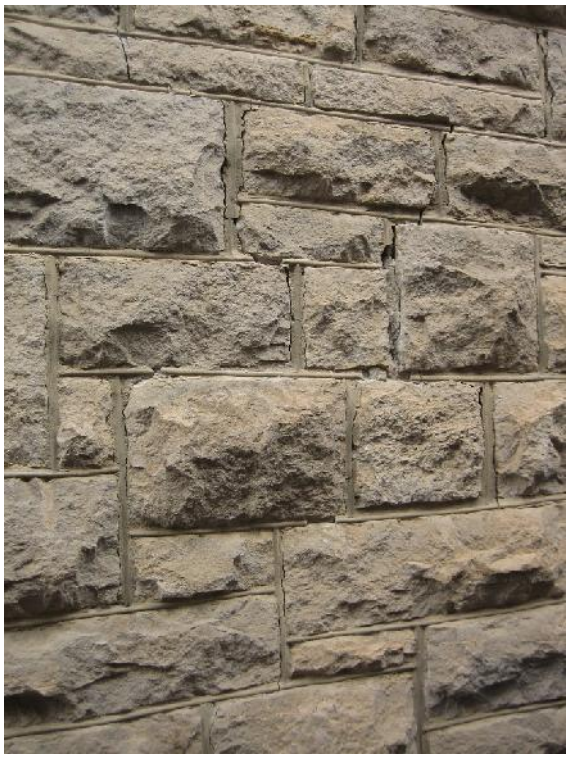
Displaced stones will require securing and may possibly be gently pulled back into alignment. Interior surfaces in these areas will be removed and the interior side of the stone wall will be exposed to help define the extent of repair and reattachment necessary to secure the areas that suffered damage. Epoxy grout injection will also be proposed to re-bond displaced and detached stones and to repair mortar joints where they have been compromised.

Exterior Wall Openings

The adjacent photo is on the west wall at the first Floor, depicting a window opening condition. Openings in general were subject to significant damage by the seismic event.

Damaged sill, surround or lintel stones will be repaired and restored. Stones that have shifted or have been displaced will be re-anchored or secured to the existing sub structure (interior side of the stone wall) in some cases steel plate or other structural element may be required at interior side to reattach and secure displaced stones as the adhesion between the courses may have been comprised. Joints will be repaired and cracks may receive epoxy grout injection to re-bond stones courses and to repair mortar joint adhesion where compromised.

Exterior Stone at Concrete Brace Wall



The adjacent photo is on the east wall directly exterior to the interior concrete brace wall located perpendicular to the existing exterior stone wall. The interior concrete brace wall is located on the southern side of the central interior stair. The concrete brace wall was part of a seismic retrofit system that included a continuous foundation across the width of the building and extends up into the attic, tied to the existing roof structure and added steel bracing system.

Significant damage occurred to stone work in this area of the wall from the first floor up to the second floor and possibly extending to the roof structure. In the attic at this area, seismic anchors can be seen detached from steel bracing installed as part of the seismic retrofit. The interior stone surface will be exposed and re-attachment may be necessary to tie the existing courses both vertically and horizontally. It is also possible that the existing stone wall may need to be re-attached to the existing concrete brace wall.

The attached floor plans (exhibit A) and front façade exterior elevations (exhibit B) depict the locations where significant damage has been seen. In addition, there is a fair amount of moderate damage that will require re-grouting, repointing and repairing. The exterior front entry columns have severe damage and will need to be repaired by molding and recasting features that were damaged. Exterior wood windows have some frame cracking and racking that will require testing of window operations and some wood repair work. In repair some instances of repainting may be required.

Interior Damage:

Significant to moderate interior damage occurred at the mid to upper wall areas (particularly at the second floor and the northern half of the first floor), at the interior side of the exterior corners of the building, around existing openings, and around the existing central stair well which is adjacent to the location of the concrete brace wall. Areas of the plaster ceiling which were affected received mostly moderate damage and some interior moulding and trim work was displaced. The second floor ceiling & ceiling moulding is a painted pressed tin (metal) panel system, some of the panels came loose during the seismic event and areas of the tin edge mouldings were displaced.

Interior Plaster at Corner

In the adjacent photo the interior plaster dislodged from the existing wood lath and severely cracked in several locations. During the initial assessment it was noted that large areas of the plaster wall finish have become detached from the wood lath.

One potential solution is to reattach the plaster to the wood lath beneath with drywall screws at a tight spacing and then patch areas of missing plaster with new wall plaster. A second solution is remove the large areas of plaster finish that have detached from wood lath and install drywall or plywood and refinish to match the adjacent plaster walls, leaving the wood lath in place.

To add to the complexity of removal or patching of existing plaster wall surfaces, the existing plaster surfaces were previously coated with a thin coat of plaster to encapsulate the existing finished surface that resides on the original plaster wall surface. Through sampling and testing it was determined that those original surfaces (now exposed in many areas) below the thin coat of plaster are coated with lead based materials.

Interior Plaster at Central Stair

In the adjacent photo the interior cracks are enhanced by blue painters tape. These large surfaces have experienced substantial cracking and much of the plaster finish is detached from the wood lath that it covers. These large areas of detached plaster are also located in the area of the concrete brace wall and much of this area will need to be exposed during the process of re-anchoring the stone, these plaster surfaces should be removed in this location.

Plaster Wall to Tin Ceiling Panels & Trim

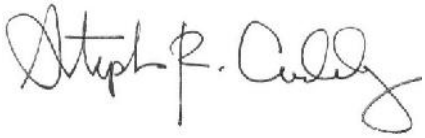
In the adjacent photo (above) the coved trim at the painted tin ceiling had broken loose and was displaced after the seismic event and was temporarily re-anchored. In the photo below tin ceiling panels became dislodged and were also temporarily re-anchored.
In a few areas where tin ceiling panels became detached it is recommended that a few panels be removed and the wood strip furring system be inspected and repaired if damage or detachment is found.

Other Interior Finish Items

Interior features such as plaster castings of cornice or mouldings installed to compliment decorative openings or other interior features were damaged or became dislodged during the seismic event. These decorative features will be documented and recommended to be repaired and/or reconstructed and re-installed as part of the repair and restoration construction documents.

Many of these interior finish surfaces and elements (plaster castings, wood trim & mouldings, pressed tin ceiling system) are unique to this historic building type and the period of time it was designed and constructed. Similar preservation standards used for the exterior of the Historic Goodman Library will also be applied to the interior repair and restoration work that is guided by the Secretary of Interior Standard for Historic Structures.

Prepared by:



Stephen R. Cuddy, AIA
Historic Preservation Architect
Napa Design Partners, LLP

Julie Lucido and Mark Andrilla
City of Napa
1600 First Street
Napa CA 94559

August 7, 2015

RE: Goodman Library – Post-Napa Earthquake Assessment
1219 First Street
Napa CA 94559

Julie and Mark,

ZFA Structural Engineers has performed several site visits (including on September 3, 2014; September 9, 2014; and March 3, 2015) at the Goodman Library to review effects of the August 24, 2014 South Napa earthquake. Repairs of the earthquake damage are needed to return the building to pre-earthquake condition. Due to the life safety hazard and severity of damage at several locations, strengthening measures are urged to be incorporated with the repair efforts to improve earthquake resistance performance at select locations. The following areas were reviewed:

- Exterior unreinforced stone masonry walls
- Interior spaces of first & second stories
- Attic space and partial basement
- Parapet bracing at roof
- Stone "tower" at north end of roof
- Interior of elevator shaft

During the site visits, several instances of damage due to the earthquake were observed. A summary of this damage and suggested repairs are defined below:

1. Significant damage is apparent at the stone tower at the north end of the roof. Multiple stones have fallen away and mortar joints are extensively cracked and/or dislodged. Simple reconstruction of the tower with stone masonry to its previous condition will not mitigate the structural collapse hazard that occurred. Therefore the tower is recommended to be deconstructed such that a structural support framework of steel and/or concrete may be installed at the hollow core of the tower prior to reconstruction. The stones of the tower will be attached to the new structural framework. Steel braces from the existing roof structure to the tower may be required. See photo 1.

2. Several adhesive anchors that attach the roof truss bottom chords to the stone wall at the attic appear to have elongated and/or loosened. A testing agency was hired to tension test the suspect anchors. Eight anchors in the attic have passed testing. No repair of anchors is required. See Appendix B for anchor testing report.

3. Several adhesive anchors that attach the steel retrofit bracing to the stone wall at the parapet at the roof appear to have elongated and/or loosened. All but 7 of the threaded anchors at the parapet bracing were tension tested. Eight of the tested anchors failed. Analysis will be performed to determine whether the failed anchors require replacement. See Appendix B for anchor testing report. See photo 2.

4. At each of the four stone wall corners, as well as along a majority of each exterior wall between the windows, significant damage was observed. Mortar is cracked and/or expelled from the joints, and stones have shifted away from their original location. It is recommended to grout inject these locations in order to solidify the wall. The grout injection procedure includes mortar joint repointing. Several locations, particularly the corners, will require local disassembly and reconstruction of the wall prior to grouting due to significant displacement. Regularly spaced steel rods will be inserted in 2 directions through each corner in combination with the grout injection to repair the corners. Interior wall finishes were removed locally at a corner at the second floor. Damage was observed at the wall consistent with that observed at the exterior. It is therefore anticipated that interior wall finishes will need to be removed at a majority of the wall repair locations. See Appendix C for a sample grout injection procedure. See photos 3 & 4. Note, the elevator shaft obstructed review of the stone wall at the southwest corner of the building. The shaft is completely covered with wall finishes and no access point to the stone walls behind is available. No damage to the finishes of the shaft walls was observed.

5. In at least 6 locations in the attic, the connection between ceiling joist (truss bottom chord) and rafter (truss top chord) has opened up. These connections should be reinforced possibly using plywood gussets on each side of the damaged joint. See photo 5.

6. At the roof level, in several locations, cement grout packing has fallen out between a steel anchorage strut and continuous parapet bracing. These locations shall be repaired by removing damaged grout and re-installing new high-strength grout.

7. Above the roof level, at the interior of each of the four stone wall corners, extensive cracking occurs. These cracks should be repointed to prevent water intrusion and future structural degradation of the wall.

8. Above the south end of the roof, 2 horizontal steel tie rods have loosened and exhibit sagging in comparison to other similar rods. If not taut, the tension rods are not effective at bracing the parapet. Turnbuckles should be installed on these rods, such that they may be tightened.

9. In the attic at the south stone wall, an approximately 8 foot long crack occurs. The wall has locally failed and several stones are dislodged from the wall. A similar condition of local wall failure has occurred over 8 feet near the attic access point. The damaged walls at these locations should be rebuilt. See photo 6.

10. In several locations throughout the building non-structural damage was observed, related to the earthquake. Cracking of interior wall plaster and damage to molding was observed. Since the damage is non-structural, the recommendations for repair/replacement are deferred to the Project Architect.

Should you have questions, please contact the undersigned.

Kind regards,

Steve Heyne, PE
ZFA STRUCTURAL ENGINEERS
Engineer

Chris Jonas, SE
ZFA STRUCTURAL ENGINEERS
Principal

APPENDIX A
PHOTOS

Photo 1. Stone “tower” at north end of building.

Photo 2. Loosened bolt at parapet bracing.

Photo 3. Cracking at wall between windows.

Photo 4. Wall displacement at top of corner.

Photo 5. Opened wood framing joint and displaced stone.

Photo 6. Damaged south wall in attic.

APPENDIX B
ANCHOR TESTING REPORT

July 30, 2015
Project No.: 20161352.001A

Mr. Chris Jonas
ZFA STRUCTURAL ENGINEERS
1303 Jefferson Street, Suite 400A
Napa California 94559
ChrisJ@zfa.com

SUBJECT: Materials Engineering Services
Goodman Library - City of Napa Buildings - EQ Damage Repair
Anchor Bolt Direct Tension Testing Program
Napa, California

Dear Mr. Jonas:

As requested, Kleinfelder has completed materials engineering services in connection with the referenced project. This report presents the results of field testing and includes a general description of the conditions encountered in the field. We have prepared this document in accordance with your request and have outlined the principles and techniques used to perform the area of engineering service requested. Professional services were provided on July 10, 2015, in preparation of this report.

PURPOSE

The purpose of our services was intended to conduct limited field testing to determine the direct tension performance of various post-installed anchorage systems used in the unreinforced stone masonry construction at the site. The work was intended to provide limited load testing of the existing adhesive and/or mechanical anchors connecting the wall to structural framing elements located at parapet and roof connection points. Testing was intended to determine if the anchorages have experienced a loss of capacity or have sufficient capacity to carry required in service demands deriving from the anticipated loading. Performance data is intended to be used by the City of Napa and or their design professionals to evaluate performance values against project end use requirements.

SCOPE OF SERVICES

Scope of services have been provided in general accordance with applicable load test procedures provided by ZFA Structural Engineers dated April 9, 2015 which describes the general test procedure followed in testing the behavior of the roof parapet and attic anchorages when subjected to simple direct tension loading.

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GENERAL PROCEDURES

As required by the test procedure, direct tension testing of existing retrofit anchorages at applicable horizontal HSS parapet framing members and epoxy set stone wall anchors were performed in general accordance with applicable Uniform Building Code, UBC Standard Section(s) 21-7, and “Tests of Anchors in Unreinforced Masonry Walls”.

Proof load tension testing was accomplished by using a calibrated hydraulic dual manifold load cell assembly. The hydraulic assembly allows for direct loading of the anchorage devices. Direct tension reaction supports were provided by either the existing retrofitted 4x12 blocking in the case of the retrofitted (Attic) anchorages or by direct loading against the HSS Roof parapet structural steel framing reactions to provide for unrestrained failure of the anchors and/or surrounding masonry wall layup. Anchors were tested to 3000 pounds force at both direct tension loading applications.

Direct tension loading was applied to all retrofitted anchorages by coupling onto the existing all-thread anchorage rods. The test fixture and hydraulic assembly were typically positioned over the anchorages such that the loads were applied normal to the vertical wall surfaces. Test loads were applied in a steady manner up to the point of ultimate loading. Visual inspections of the anchorage were performed prior to and during loading. Response characteristics of the tested anchorages were measured using manual tape measurements for the purpose of independently measuring deflection of the anchorage at its outer wall surface embedment zone. In general, the test loads were allowed to remain in place for not less than one minute with response deflection measurements observed prior to load removal. Unless otherwise noted, general test procedures and equipment used to facilitate testing was provided in general accordance with applicable ASTM E 488 standards and generally accepted engineering practice.

The following proof load testing installations were evaluated:

Anchors at Roof Parapet

Upper and lower structural steel HSS members and their anchorages which are constructed within the interior of the stone parapets were evaluated. In general, anchorages located between these members and the perimeter stone wall layup include a combination of welded rods and threaded through anchor attachments. Supplemental to these anchorage details mechanical expansion (sleeve/shell) anchorages were found to be intermingled within anchorage attachments installed at upper and or lower structural steel HSS members. As required by the anchor testing procedure only the threaded anchors were subject to testing. *(Approximately 77 total anchorages exist)*

Findings

Based upon field direction given by representatives of ZFA Engineers, the initial test group and required test frequency criteria had been expanded to include 100% testing of all upper and applicable (end wall) lower anchorages based upon visual concerns over the preexisting failures noted surrounding several of the anchorage installations. Note: A total of seven (7) threaded anchorages were determined to be in an untestable condition due to access limitations or thread engagement restrictions and have not been included as part of the proposed test group program. Failures occurred from the testing performed at upper and lower structural steel HSS members and their anchorages.

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Anchors in Attic

Primary roof framing spans east and west and bears on the integral stone walls. The walls typically consist of irregular stones laid up at the inner wall wythe with the exterior elevation consisting of (cut) stone laid up in a random coursing fashion. The roof framing is anchored to these perimeter stone walls by use of epoxy set threaded rods anchored into the masonry wall section and anchored at the interior by a 4x12 blocking detail constructed between the primary roof framing members. An approximate combined total of fifty (50) anchors exist along the east and west wall lines of the structure.

Findings

The test group included a total of four (4) anchors located along the west wall elevation nearest the attic access hatch where evidence of dislodged or damaged stone masonry surrounding these anchorages could be observed. An additional four (4) anchors were tested along the opposite west wall where there appeared no evidence of damage to the masonry stone at these anchors. The test group and required test frequency criterion was maintained throughout the test program. There were no failures to report as a result of the testing performed

Refer to the following appendix for details of the testing:

Appendix A – Test Survey Plan Layout
Appendix B – Summary of Test Results
Appendix C – Photographic Details of Testing
Appendix D – Acceptance Test Procedure

LIMITATIONS

This assessment represents limited testing of the referenced structure or its component parts. It does not include, and specifically excludes, observations or testing of inaccessible areas or a detailed structural evaluation of the structure or its components unless otherwise discussed herein. This report does not address structural adequacy or compliance with the current Building Code requirements. Absolutely no responsibility is assumed with respect to the ability of the structure or site to resist any vertical or lateral loads.

Only those conditions noted and as described by Kleinfelder's authorized scope of services are noted. It is possible that a more detailed investigation and or testing program would provide more information that is noted in this report. Further evaluation and testing is recommended if additional information is desired by the client. Should additional information become available, we should be consulted to review the effect of the information on our conclusions. No warranty or guarantee, express or implied, is made.

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CLOSURE

We appreciate the opportunity to provide professional services to you on this project and trust the information in this report meets the current project needs. Should you have any questions or require additional information please contact John Nicolini in our Hayward, California Office at (925) 225-4581 or by e-mail at jnicolini@kleinfelder.com.

Respectfully submitted,

KLEINFELDER, INC.

John E. Nicolini
Principal Materials Engineer

Kim Simmons
Assistant Project Manager

JEN/KKS/jmk

Enclosures: Appendix A – Test Survey Plan Layout
Appendix B – Summary of Test Results
Appendix C – Photographic Details of Testing
Appendix D – Acceptance Test Procedure

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APPENDIX A

Test Survey Plan Layout

one-eighth inch = one foot 0 4 8 16

one-quarter inch = one foot 0 4 8

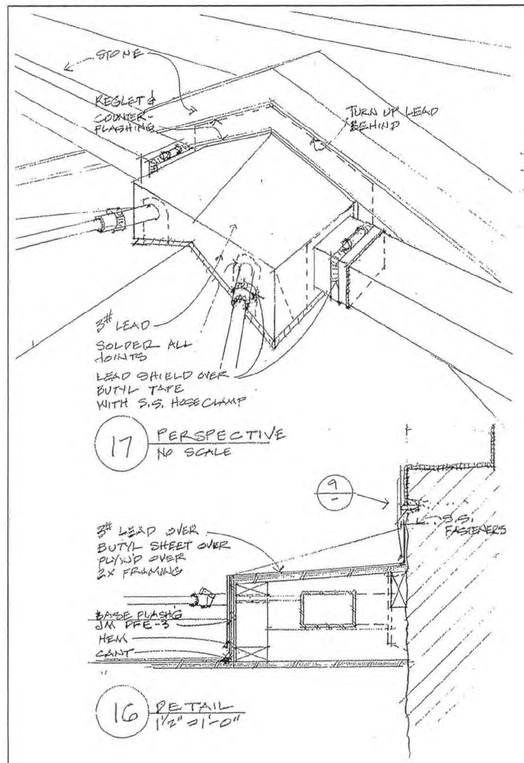
one-half inch = one foot 0 4

three-quarters inch = one foot 6 0 2

one inch = one foot 6 0 2

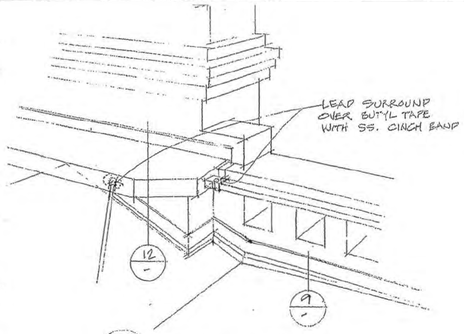
one and one-half inches = one foot 6 0 1

three inches = one foot 6 0



17 PERSPECTIVE
NO SCALE

16 DETAIL
1½" = 1'-0"



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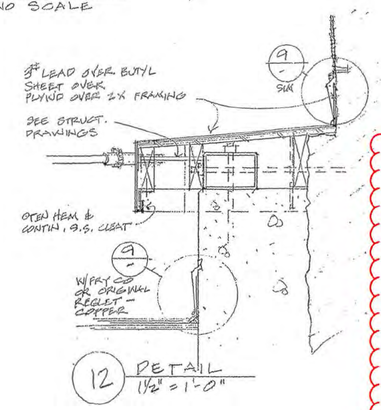
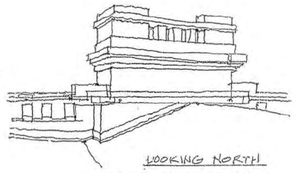
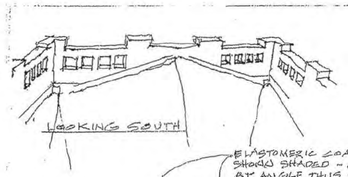
NO SCALE



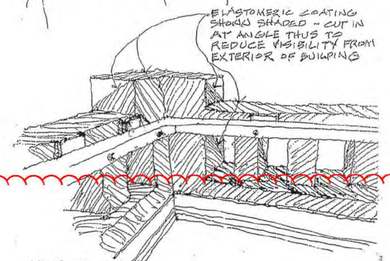
12 DETAIL
1½" = 1'-0"



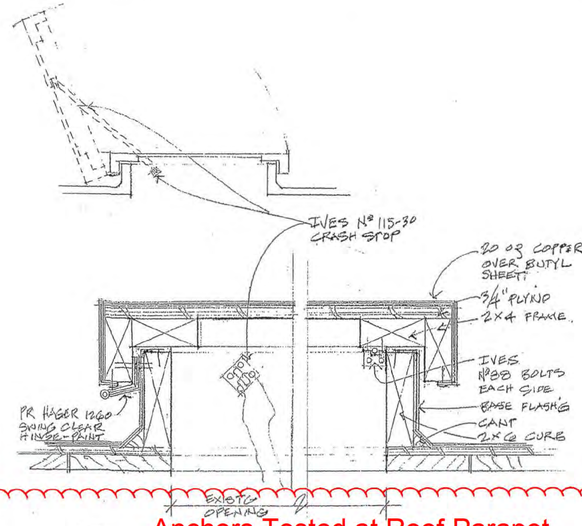
LOOKING NORTH



LOOKING SOUTH



PERSPECTIVE
LOOKING AT TYP. BACK OF PARAPET



2 ROOF HATCH
3" = 1'-0"

Anchors Tested at Roof Parapet

North Wall Upper Frame (Anchors 1-8)

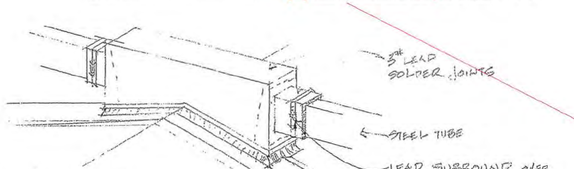
ROOFING

BUILT-UP ROOFING SYSTEM:
PER JOHNS MANVILLE SPEC. AG1S
WITH TOP GUARD TYPE B EMULSION
AND FIBRATED ALUMINUM ROOF COATING

BASE FLASHING:
PER JOHNS MANVILLE SPEC. DFE-1
WITH FIBRATED ALUMINUM ROOF COATING

ELASTOMERIC COATING
DOW CORNING ALLGUARD COATING
TWO (2) COATS OVER PRIMER
PER MFG PRINTED INSTRUCTIONS

West Wall Upper Frame (Anchors 1-26)



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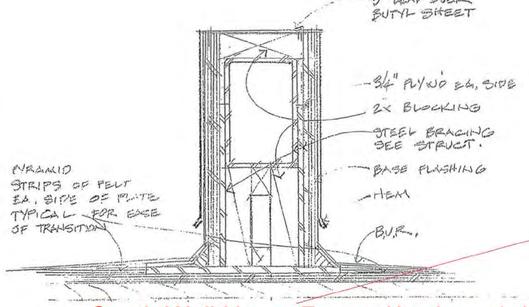
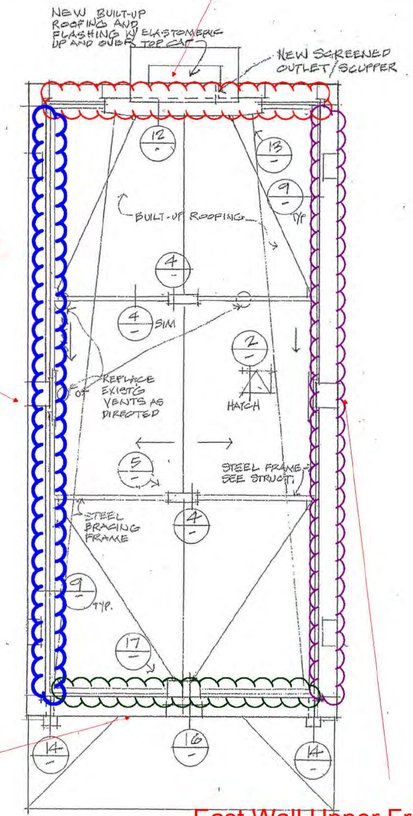


4 DETAIL
3" = 1'-0"

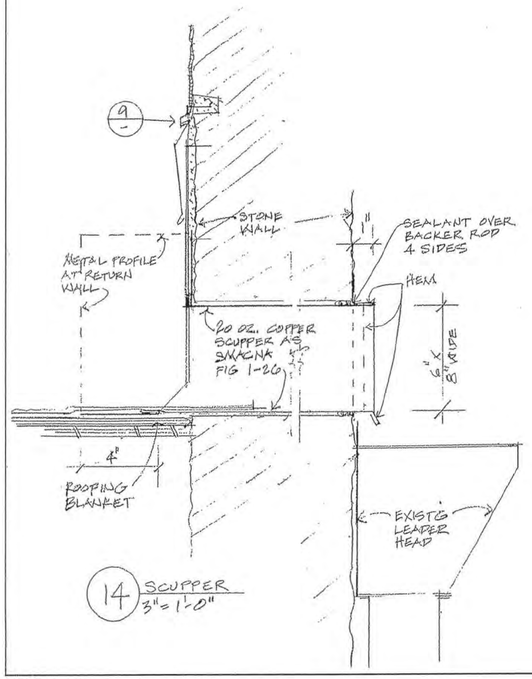


1 ROOF PLAN
1/8" = 1'-0"

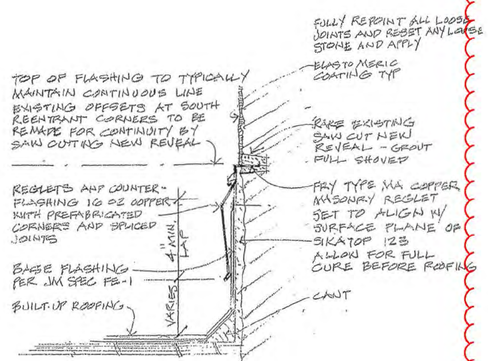
East Wall Upper Frame (Anchors 1-29)

South Wall Upper Frame (Anchors 1-14)

South Wall Lower Frame (Anchors 1-6)



14 SCUPPER
3" = 1'-0"



9 BASE FLASHING
3" = 1'-0"

Notes

No.	Descriptions	Date

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PROTECTION SYSTEM
LAYOUT

Scale: AS NOTED

Job Number: 98428.00

Drawn by: JLH

Design by: JLH

Checked by: JLH

Date: 08/25/2004

Drawing Number:

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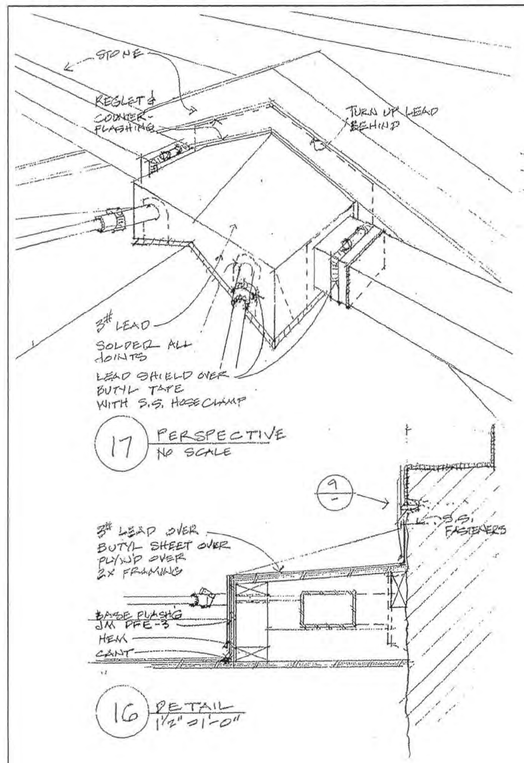
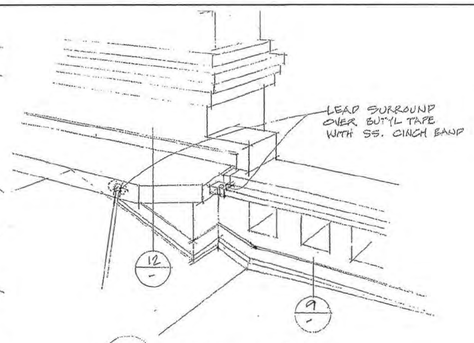
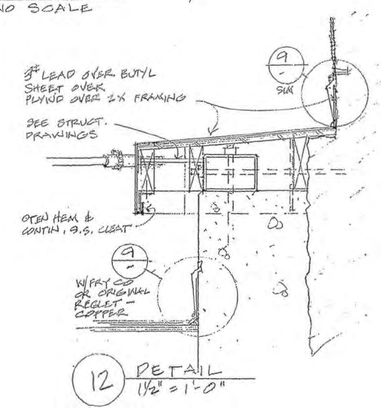
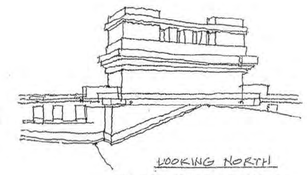
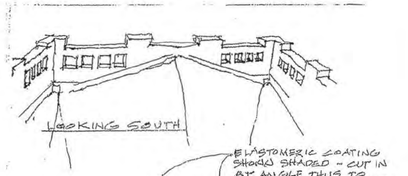
one-eighth inch = one foot | one-quarter inch = one foot | one-half inch = one foot | three-quarters inch = one foot | one inch = one foot | one and one-half inches = one foot | three inches = one foot

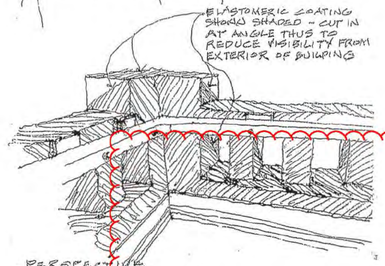


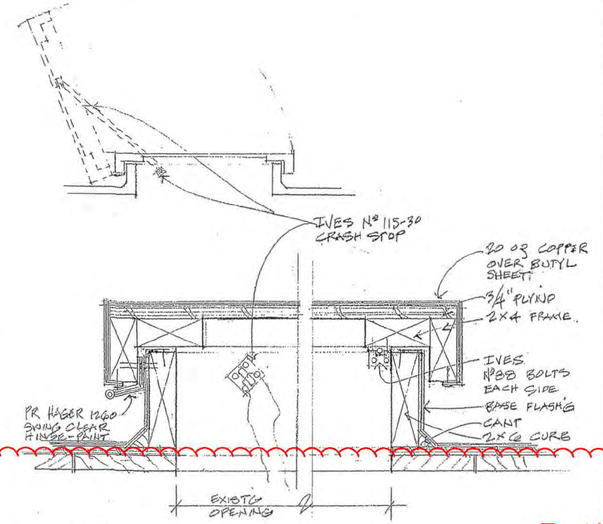












East Wall (Anchors 1-2)
East Wall (Anchors 3-4)

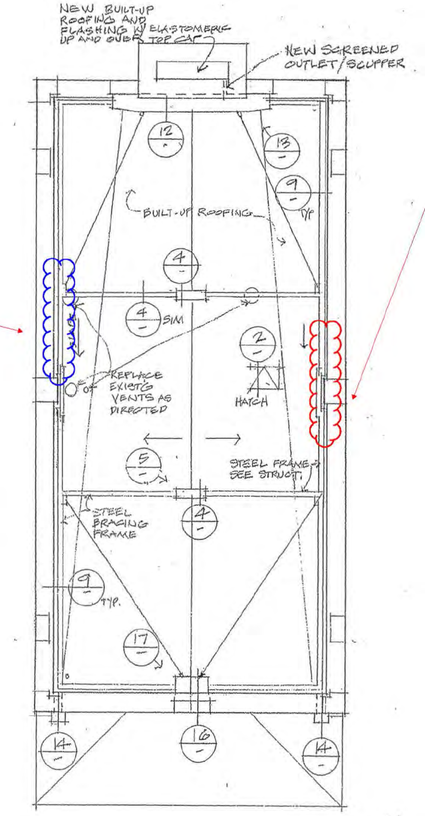
Anchors Tested Within Attic

ROOFING:

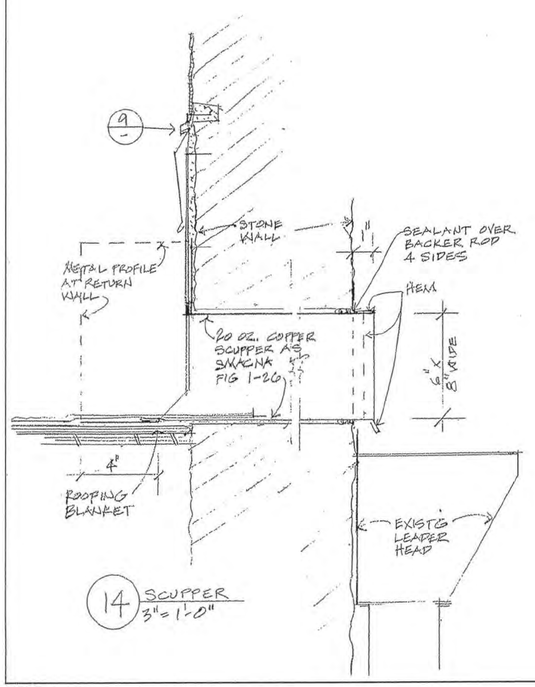
BUILT-UP ROOFING SYSTEM:
PER JOHNS MANVILLE SPEC. AGIS WITH TOP GUARD TYPE B EMULSION AND FIBRATED ALUMINUM ROOF COATING

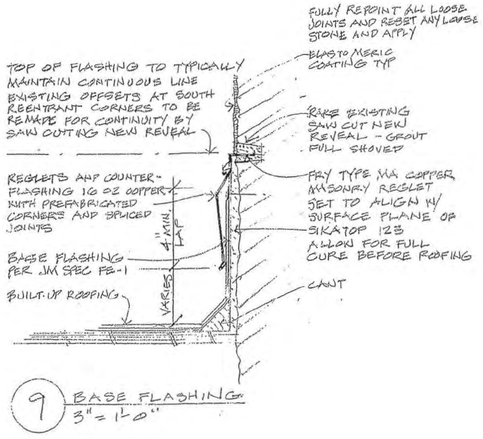
BASE FLASHING:
PER JOHNS MANVILLE SPEC. DFE-1 WITH FIBRATED ALUMINUM ROOF COATING

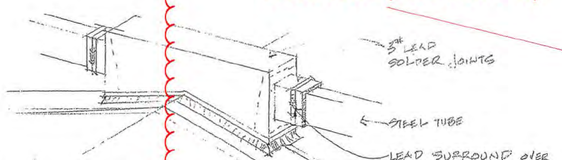
ELASTOMERIC COATING
DOW CORNING ALGUARD COATING TWO (2) COATS OVER PRIMER PER MFG PRINTED INSTRUCTIONS

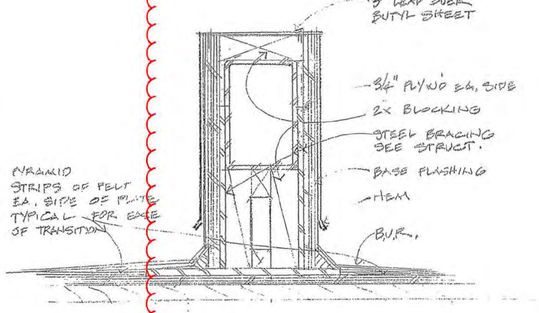


West Wall (Anchors 5-6)
West Wall (Anchors 7-8)









Notes

No.	Descriptions	Date

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Scale:	AS NOTED
Job Number:	98428.00
Drawn by:	JLH
Design by:	JLH
Checked by:	JLH
Date:	08/25/2004

Drawing Number:

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of Sheets

APPENDIX B

Summary of Test Results

TABLE I
Summary of Direct Tension Load Testing
Goodman Library Anchor Testing
Napa, California

Attic Anchors

Anchorage ID	Applied Load (lbs.)	Deflection (in.)	Pass/Fail
East Wall (Anchors 1-2)*	3000	*Remark [1]*	2 of 2 Pass
East Wall (Anchors 3-4)*	3000	*Remark [1]*	2 of 2 Pass
West Wall (Anchors 5-6)**	3000	*Remark [1]*	2 of 2 Pass
West Wall (Anchors 7-8)**	3000	*Remark [1]*	2 of 2 Pass

Note:
** - Indicates tests performed at suspect area of seismic masonry wall damage represented by loose mortar bedding and/or apparent dislodged stone.*

*** - Indicates tests performed in areas of apparent undamaged masonry layup.*

[1] During and immediately after test load applications, the embedded anchorage at the wall embed condition exhibited no evidence of distress and or failure of the constructed system. No appreciable deflection or permanent set (in excess of 1/8″) was observed resulting from applied loading.

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TABLE II
Summary of Direct Tension Load Testing
Goodman Library Anchor Testing
Napa, California

Anchors at Roof Parapet

Anchorage ID [1]	Applied Load (lbs.)	Deflection (in.)	Pass/Fail [3]
North Wall Upper Frame (Anchors 1-8)	3000	Remark [2]	1 of 8 Fail
East Wall Upper Frame (Anchors 1-29)	3000	Remark [2]	29 of 29 Pass
South Wall Upper Frame (Anchors 1-14)	3000	Remark [2]	14 of 14 Pass
South Wall Lower Frame (Anchors 1-6)	3000	Remark [2]	6 of 6-Fail
West Wall Upper Frame (Anchors 1-26)	3000	Remark [2]	1 of 26 Fail

Note: A total of seven (7) threaded anchorages of the total population tested were determined to be in an untestable condition due to access limitations or thread engagements restrictions and are not included as part of this testing program.

Remarks

[1] Based upon prescribed "Anchor Testing Procedure" evidence of noted failure as well as direction by ZFA Structural Engineers required that 100% of the anchorages supporting the upper and lower structural steel HSS member be evaluated. Mechanical expansion (sleeve) anchor were found to be intermingled within anchorages installed at upper and or lower structural steel HSS members. Failures reported consisted of masonry sleeve anchorages as represented by results in Table II, above at north and south roof parapet end walls conditions.

[2] During and immediately after test load applications, the embedded anchorage at the wall embed condition exhibited no evidence of distress and or failure of the constructed system. No appreciable deflection or permanent set (in excess of 1/8") was observed resulting from applied loading.

[3] Anchors identified as having failed load testing were marked in the field w/ florescent orange paint to identify location of repair.

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APPENDIX C

Photographic Details of Testing

IMG 1 View of typical threaded epoxy anchor rod installed within stone masonry at interior attic locations.

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IMG 2 View of typical direct tension load testing of threaded epoxy anchor rod installed within stone masonry at interior attic locations. Note existing structural blocking used as reaction frame support.

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IMG 3 View looking (North) from roof level. Note upper horizontal structural steel HSS members where they occur at interior of the stone parapet. Examples of location and anchorage detail subject to direct tension testing. Flourecent orange paint markings noted in picture background identify failed anchorages.

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IMG 4 View looking (South) from roof level. Note upper and lower horizontal structural steel HSS members where they occur at interior of the stone parapet. Examples of location and anchorage detail subject to direct tension testing. Flourecent orange paint markings noted in picture background identify failed anchorages.

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IMG 5 View of typical direct tension load test being performed at lower structural steel HSS members along North and South building end walls.

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IMG 6 View of typical direct tension load test being performed at upper all threaded rods supporting structural steel HSS members along East and West parapet long walls.

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IMG 7 View of mechanical expansion (sleeve) anchor found to be intermingled within epoxy set anchorage installed at upper and or lower structural steel HSS members. Image represents failed installation of anchorage under direct tension test loading. Expansion sleeve anchors primarily located at north and south roof parapet end walls.

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APPENDIX D

Acceptance Test Procedure

Goodman Library – Seismic Repairs

2015-04-09

Anchor Testing Procedure

During our recent site visit to the Goodman Library we noticed several anchors rods installed into the stone walls during the previous retrofit appear disturbed. Such disturbances include loose nuts & washers, cracked grout at pedestals, and/or loose mortar and dislodged wall stones. ZFA recommends anchor tension testing be performed for possible loss of capacity. The below testing locations include only those anchors which are currently visible & accessible. Additional anchor locations, such as those located within the second floor framing cavity, are not visible at this time. After finishes are removed, if similar disturbances are found, those anchors will be subject to a similar testing program.

Anchor bolt direct tension testing shall be performed per Uniform Building Code Standard, UBC 21-7, "Tests of Anchors in Unreinforced Masonry Walls". The support/reaction frame for the testing apparatus shall be supported directly by the stone wall. The minimum distance between the support locations on the wall and the anchor shall be 14 inches. 25% of anchors at both the roof and attic (as noted below) shall be tested. Test anchors shall be chosen at random. Each test group shall include anchors from all applicable walls. Anchors shall be tested to 3000 pounds. Where more than 10% of anchors at the attic or roof fail to meet this test load, an additional 25% at that condition shall be tested. Where 10% of the 50% sample group fails to meet the test load, all remaining anchors shall be tested.

Anchors at Roof Parapet

Upper & lower horizontal structural steel HSS members occur around the interior of the stone parapet (see figure 1 and photo 1). Anchors between these members and the stone wall include both welded rods and threaded thru-anchors with nuts. Initially, only the threaded anchors are subject to testing (approximately 65 total threaded anchors exist). However, if the threaded anchors fail to meet the 10% criteria, the welded anchors will be subject to testing. Coordination of testing protocol with ZFA for welded anchors is required, if failure of anchors during initial testing occurs. The initial tested group shall include 7 visually loose anchors: 2 at the northwest corner, 3 at the southwest corner, and 2 at the southeast corner. Contact ZFA for on-site identification of these anchors. The testing apparatus may bear against the HSS at this location, however the HSS shall be blocked tight to the stone wall at these reaction points.

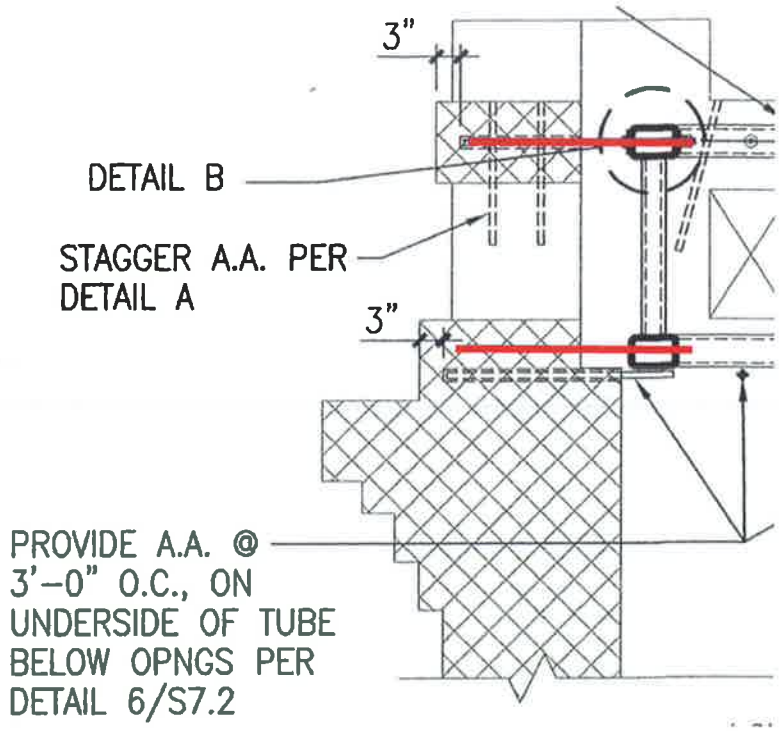

Figure 1. Excerpt from 2004 retrofit drawings showing anchor rods at parapet (anchors shown in red).

Photo 1. Example of anchors at parapet (threaded anchors shown in red).

Anchors in Attic

The primary roof framing spans east-west and bears on the east & west stone walls. These members are anchored to the stone walls using horizontal, epoxy-set threaded rods anchored through a 4x12 block between primary framing members (see figure 2 and photo 2). These anchors shall be tested (approximately 50 total anchors exist). The tested group shall include the six nearest anchors to the attic access hatch where evidence of dislodged stones around these anchors occurs. Contact ZFA for on-site identification of these anchors. To accommodate the testing apparatus, the existing rods may be cut, tested, then repaired with a coupler nut. Coupler nut shall include witness holes for visual verification of proper installation.

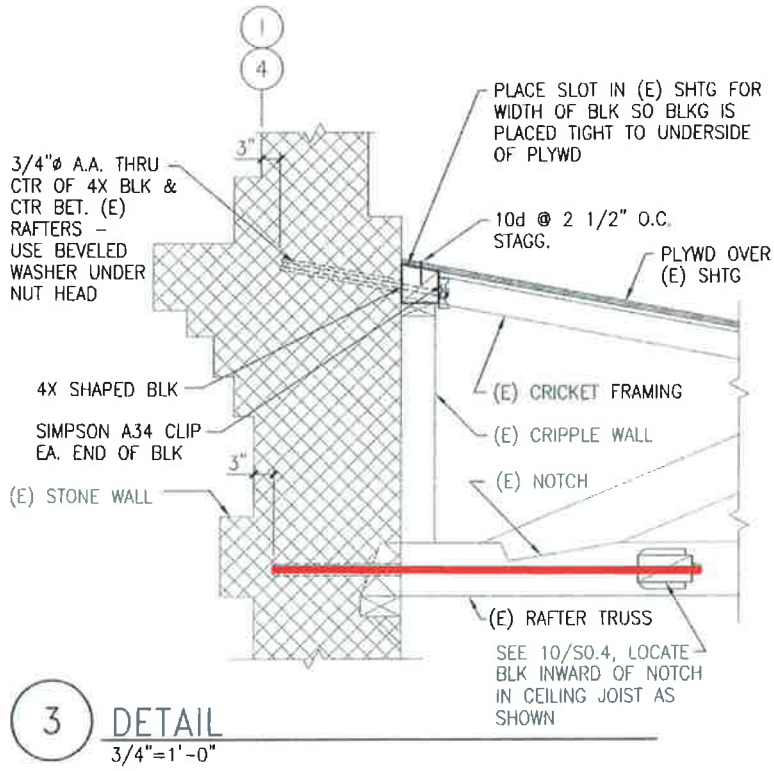

Figure 2. Excerpt from 2004 retrofit drawings showing anchors rods at roof framing in attic (anchors shown in red).

Photo 2. Anchors rods at roof framing in attic (anchors shown in red).

APPENDIX C
GROUT INJECTION PROCEDURE

CRACK REPAIR OF UNREINFORCED MASONRY WALLS WITH GROUT INJECTION

I. GENERAL

Background - The pressure injection method of crack repair was developed by the Hazardous Building Committee of the Structural Engineer's Association of Southern California and the City of Los Angeles. This method, when applicable, eliminates the need for removing and rebuilding the wall. However, the causes of the cracks should be carefully evaluated and addressed.

Earthquake damage to unreinforced brick buildings includes cracks through walls due to horizontal offsets in the plane of the wall. Such cracks generally do not represent immediate hazardous or unstable conditions, but rather weakening that in future earthquake shaking could lead to further cracking and hazardous instability and/or loss of bricks from the wall. An economical, structurally effective, and aesthetically satisfactory repair of such cracks can be accomplished by the injection of fine grout into the wall at the vicinity of the cracks. By filling the cracks and the surrounding voids inside the wall, the wall strength is restored and the adjacent mortar has not been disturbed. The injection system relies on the fact that the collar joints are poorly filled. This repair procedure stabilizes the wall by firmly rebonding loose components and it restores the lateral load resisting strength of the wall.

II. SCOPE

To provide rules and regulations governing the repair of unreinforced masonry walls by the injection of cementitious grout into cracks due to movement in the plane of the wall. Figure 1 delineates applicable cracks.

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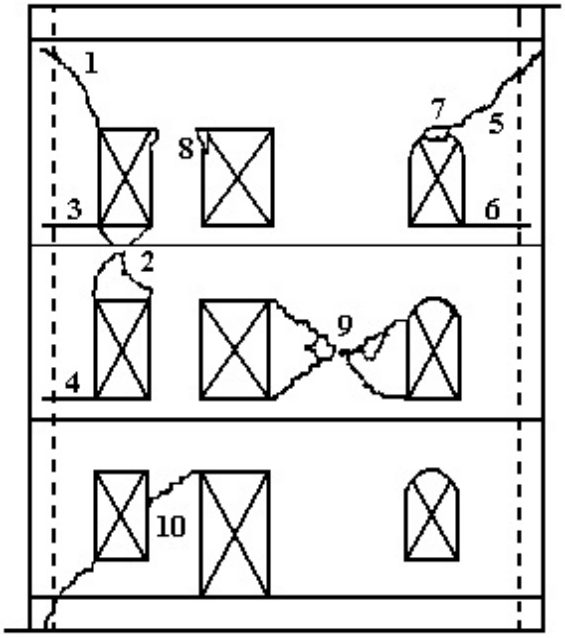

Figure 1. Typical Unreinforced Brick Building with Common Crack Patterns.

Cracks 1 and 5 may be repaired by the crack injection process. In addition to the repair of the crack itself, framing supported on the adjacent wall around the corner should be investigated for loss of or reduction of support, and appropriate repairs made. It is recommended that shear connection of the diaphragms to the wall also be made.

Crack 2 can be repaired by the injection process. Adjacent to a steel lintel at the top of the opening, injection from both sides of the wall is required since the lintel will prevent injection into the full wall thickness from one side.

Cracks 3, 4, and 6 will generally be closed by gravity and cannot receive injected grout. Grout may be used to fill the collar joints adjacent to the crack and bond adjacent loosened bricks.

Crack 7 cannot be repaired by injection. Arches generally were built with special effort to completely fill collar joints and head joints. Voids are small and not interconnected so that the injection process is not effective. An arch with loose bricks or with a part of the arch badly displaced downward shall be rebuilt.

Cracks 8 do not have the typical pattern following bed and head joints: the loosened portion is separated from the wall along a diagonal line that has sheared through bricks. Restoration of support for the lintel requires that the corners of the pier be reconstructed after removal of the damaged bricks.

Cracks 9, up to about 3/4 inch in width may be repaired by injection process under the following conditions:

- Related cracks similar to cracks 8 shall be repaired as noted for cracks 8.
- Where the cracks are in a pier that is part of the inplane lateral load resisting system of the wall, the bed joints on which sliding has occurred shall be raked to a depth of 1 ½ inch and repointed with type N mortar at both the interior and the exterior faces. The building shall be analyzed and the overstress that caused shear cracks in the pier shall be addressed.

Cracks 10 that are related to foundation settlement or causes other than earthquakes may be repaired by the injection process after the causes have been addressed.

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III. QUALITY CONTROL

1. A building permit shall be secured for all crack repair work. Drawings for the work shall be signed by a licensed Engineer. EXCEPTION: The Building Department may waive the requirement for the drawings to be signed by a licensed Engineer, depending on the nature and extent of cracks.

2. After obtaining a building permit, a pre-construction meeting shall be conducted at the job site by the contractor and the City Building Inspector. The purpose of this meeting is: (1) to review the approved plans and specifications, (2) to verify that the plans accurately represent the site conditions, and (3) to discuss the repair procedure, "core" testing, and inspection.

3. City Inspectors, the project Engineer and the Deputy Inspector shall be notified 24 hours prior to required inspections or meetings.

4. Inspections:

   a. Required inspections by the City Building Inspector at the job site shall be as follows:

      i. Pre-construction meeting at job site.

      ii. Injection holes and verification ports drilled and cleaned but prior to injection of grout.

      iii. After injection of grout to designate inspection hole locations. EXCEPTION: Requirement for inspection core hole may be waived by the Building official.

      iv. When 2 ½ inch diameter inspection holes are ready for inspection.

      v. After completion of clean-up work.

   b. Inspection Holes:

      i. When required, holes shall be drilled at locations selected by the City Building Inspector after the injection work is complete. Holes shall be 2 ½ inch diameter cores, centered on the crack, the depth equal to the depth of the injection holes. Fill the holes with dry packed mortar after inspection and approval by the City Building Inspector. Where exposed, tool the surface to match the adjacent brick work.

      ii. Inspection shall confirm that the crack is fully grouted to the depth of the injection holes. Where confirmation cannot be made or evidence of incorrect procedure is found, additional inspection holes or further investigation may be required by the Inspector.

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IV. DEPUTY INSPECTOR RESPONSIBILITIES

Continuous inspection shall be performed by a concrete or masonry Deputy Building Inspector with a controlled activities stamp. The Deputy Inspector shall be present during washout, batching, and all injection of the grout. However, Deputy Inspection is not required during the initial washout of the holes which occurs 24 hours prior to injection.

1. Verify proper building permit and that approved plans match the job conditions. All cracks to be repaired must be shown on plans.

2. Inspect contractor's equipment for the following:

   a. Cleanliness of pumps

   b. Maximum pressure of 30 p.s.i. at injection wand

   c. Equipment compliance with the Information Bulletin specifications

3. Verify that materials for the grout mix are on site i.e.,

   a. #60 and #90 grit silica

   b. Plastic Portland cement

   c. Type "F" fly ash

   d. Potable water

   e. Type "S" lime

4. Verify the thickness of walls with cracks to be grouted and the appropriate depths of injection and verification holes.

5. Inspect each crack to be grouted. Verify that the proper number and depths of 3/4 inch holes have been drilled.

6. Verify that the cracks to be grouted have been cleaned of loose mortar, repointed, and pre-moistened (flushed) at least 24 hours prior to grout injection; observe the second flushing of the areas of damage prior to injection and insure that water flows from each drilled hole.

7. Insure that the grout mix is volumetrically batched in approved containers. Specifications hereafter.

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8. During placement of grout, verify that grout is placed in a bottom to top, far collar joint to near collar joint sequence, with all holes filled.

9. Conduct a flow test of each grout mix batched for each day of grouting. The procedure is as follows:

   - A grout sample shall be taken from the injection wand. Fill a 2-inch diameter by 4-inch high cylinder.
   - Pour the sample slowly from 12 inches high onto an impervious smooth level surface.
   - Proper consistency is indicated by a 6-inch to an 8-inch diameter puddle on the impervious surface.

10. Confirm filling and tooling of holes in exposed walls.

11. Insure that the cleaning of the wall surface does not damage the newly installed grout.

12. Prepare a Inspection Form IN-07 for each day indicating the following:

    a. Specific cracks that were grouted.

    b. Ratios of materials and water used in the grout mix.

    c. Observations of water flow.

    d. Results of flow tests.

    e. Name of contractor

    f. Condition of equipment.

V. REQUIRED EQUIPMENT

1. Mortar pump with agitating hopper that is capable of producing 30 p.s.i. pressure.

2. Cement mixer.

3. Measuring containers.

4. 3/4 inch drill bits and rotary drill motor.

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5. Power cord.

6. Water hose.

7. Long water hose nozzle that is adjustable to 1/4 inch.

8. O.S.H.A. approved scaffold and/or ladders.

9. A 5/8 inch injection tube capable of penetrating all collar joints into an unreinforced masonry wall with a method of retaining grout as pressure increases to 27-30 p.s.i. At 30 p.s.i. flow of grout to the tube must be automatically stopped to:

   - Prevent excessive pressure from blowing out the wall. Once the grout stops flowing. The pressure builds up rapidly.
   - Prevent excessive pressure from locking up the equipment.
   - Help eliminate human error and give better control to the Deputy Inspector.

10. Pressure monitoring system at ground level for use by the Deputy Inspector.

VI. SPECIFICATIONS AND PRESSURE

1. Materials

   a. Grout (Parts shall be measured by volume)

      - 3 parts #60 silica sand.
      - 1 part of #90 silica sand.
      - 1 part plastic Portland cement.
      - ½ part type S lime
      - ½ part type F fly ash

      Approximately 2 ½ parts of water are added. Water shall be sufficient to achieve a pourable but not watery consistency as determined by the flow test (Section IV, item 9). Water may be added to the mix to maintain the required consistency. Grout shall not be used more than 2 ½ hours after initially adding water to the dry ingredients.

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b. Mortar (Type N)

- 4 ½ to 6 parts masonry sand.
- 1 part type I or type II alkali cement.
- 1 part type S lime.

2. Preparation of the Walls

a. Apply 1 coat of a masonry sealant to any portion of masonry wall to remain exposed on which grout may spill.

b. Remove loose mortar from open joints. Mortar not bonded to at least one brick of an open joint, or easily debonded shall be removed.

c. Clean the cracks by flushing with water.

d. Fill the premoistened cracks and open joints with prehydrated mortar ½ inch deep. Tool the mortar joints to match the adjacent existing joints.

e. Remove and reset, with mortar, bricks that are determined visually or by hand to be debonded from adjacent bricks. Clean loose mortar from the cavity and flush with water before resetting the brick.

f. Drill 3/4 inch minimum diameter injection holes into the crack at a head joint or cracked brick in each course of brick. Holes shall penetrate to the near face of the far wythe of brick. See Figure 2

g. Drill 3/4 inch minimum diameter verification ports into the head joint approximately 8 to 12 inches on each side of the crack to the same depth as in f). See Figure 2.

h. Thoroughly wash and saturate the wall by flushing with water approximately 24 hours before injection. Use water at City pressure through an injection wand that can be inserted the full depth of the holes. Flush each injection hole and verification port working from far collar joint to near collar joint in each hole and from top to bottom. Flush each hole until the water flows clear.

i. Thoroughly saturate the wall by the same method immediately prior to grout injection. Repeat if more than two hours have elapsed between flushing and injection.

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3. Grout Injection

Grout shall be delivered into the wall through an injection wand capable of sealing the injection hole approximately by 2 inches behind the nozzle. The grout pump shall be able to develop at least 30 p.s.i. Inject grout into the wall at each injection hole, filling the collar joints starting at the far collar joint, proceeding to the near collar joint, working from the bottom to the top. Verification ports should be plugged as grout flows from them. When grout flows from the injection hole above, apply a temporary plug to the hole being injected and apply grout to the injection hole above. Continue until all injection holes have been injected. Inject grout into the verification ports from which no flow occurs. Wash grout spillage from the wall immediately.

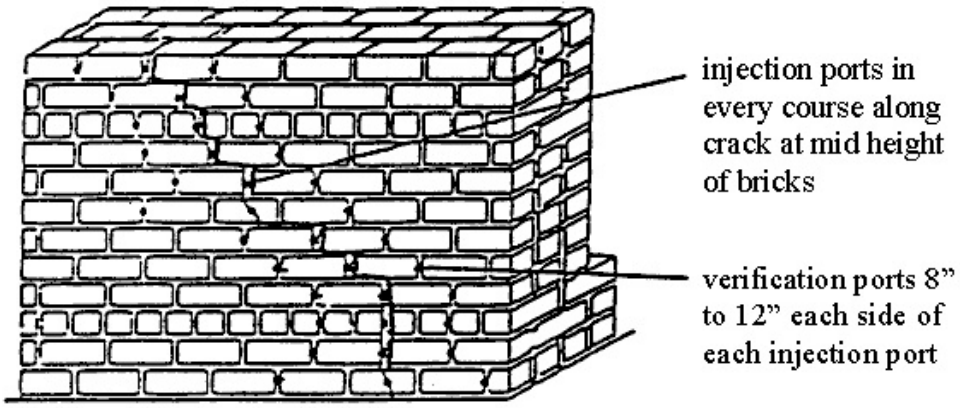

Figure 2. Injection and Verification Port Pattern

4. Clean-up

a. When the grout is firm, remove the temporary plugs and point holes with mortar. Tool the mortar to match the adjacent existing.

b. Remove and dispose of all spilled mortar and grout.

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Napa Design Partners, LLP

City of Napa
Jacques R. LaRochelle, Public Works Director
Department of Public Works
1600 First Street
Napa, CA 94559
Attn: Ernie Cabral

February 8, 2016

Project: Various City Buildings Earthquake Repair, Assessment Report for Historic Goodman Library at 1219 First Street, Napa, CA 94559

Regarding: Update to original assessment report(s) and follow up upon installation of the stone tower containment structure and the rated structural scaffolding which allowed access and closer inspection of the damaged exterior stone walls.

Napa Design Partners, LLP in conjunction with ZFA Structural Engineers initially surveyed the subject property for earthquake damage on March 3, 2015. Also within a few days after the City of Napa was struck by a 6.0 earthquake on August 24th of 2014 both Stephen Cuddy and Chris Jonas as local residents, volunteers and as members of both the local Historical Society and Landmarks organizations did first hand observe the damage caused by the event. Initially our survey and review of existing conditions, once under contract with the City of Napa, identified significant exterior damage to the upper areas of the stone entry tower and corners of the building. Interior areas, that were accessible, were surveyed for damaged plaster walls and ornamental plaster mouldings. Testing of existing interior and exterior materials was performed to identify the presence of asbestos and lead paint. No asbestos was found but the presence of lead paint was found on interior plaster walls and ornaments and on the wood trim around windows and doors.

Due to the significant structural damaged that occurred, the first order of business was to secure the building for limited access and to provide protection(s) to allow the design and assessment team safe access for further detailed examination of the extent of structural and architectural damage. Initially after the earthquake 3DVDT volunteered while working with the Masonry Institute to scan the exterior of the building in its post-earthquake condition as part of a case study. 3DVDT offered to share that initial scan information with our assessment team. The information gathered was used along with subsequent follow up 3D modelling to determine what the size and extent of the steel containment structure would be to contain the significantly damaged stone entry tower. By the time the engineering was complete and the containment structure was reviewed, signed off and the construction bids were awarded (approximately 6 months) the damaged entry tower structure stone had shifted slightly to the northeast and expanded horizontally as individual stones settled pushing the walls of the structure outward.

After award of the construction contract, the proposed steel containment structure was modified

during the shop drawing phase and additional field modifications were made the day of the installation to fit the changing field conditions.

In addition, testing engineers were recently hired to perform tests on identified seismic anchor connections some of which failed during the 6.0 earthquake. Closer examination by the architectural and structural assessment team revealed greater damage in upper areas of the existing stone structure. Also observed with each subsequent earthquake noted below was shifting of the loosened stone work. Below depicts the series of 3.0 or greater earthquake events that have occurred since the initial 6.0 event that occurred on August 2014:

Later that same day (24th of August) after the 6.0 event, two 3.5 & 3.6 events occurred respectively in Napa. At the end of August 2014, 3.2 and 3.0 were recorded respectively in Napa, followed by a 3.9 in American Canyon to the south. In January of 2015 a 3.0 earthquake centered in Yountville occurred followed by a 4.1 earthquake centered in Yountville to the north in May of 2015. Since that initial 6.0 event in August of 2014 hundreds of smaller events have occurred in the area according USGS data.

Exterior Damage Update:

Significant exterior stone damage occurred at the upper areas, the corners of building, around existing openings, and at the location of the interior concrete brace wall. Below are additional photographs depicting the extent of the earthquake damage at several locations around the building. The containment structure and scaffolding allowed our team to get a closer look at the existing damage. And we found deeper cracks, separations, displaced stones and movement that were difficult to observe from the ground or from the roof above. We also suspect that the movement continues as larger separations or joint cracks between the stones at the exterior correlate to significant damage that occurred on the interior.

Photo A-1: Southeast corner
Photo A - 1 was taken at the south east corner above the second floor window line. In this image the corner stone dislodged moving over an inch outward from its original position onto the water table stone. Also a damaged mortar joint has recently broken loose and fallen from above and lays on the water table stone in the adjacent photograph. We have seen additional evidence of this type of damage and deterioration at other sides of the stone building's exterior.

Photo A-2: South wall above addition

Photo A-3: South wall enlarged view

Photo A-2 was taken at the central area of the south wall located above the addition and the second floor window line. In this image the stones have separated and shifted horizontally and pushed the corner stones outward, (See Photo A-1). These enlarged gaps between the stones measure up to 2 inches (See Photo A-3). In some locations the mortar joints have stayed attached to one of the displaced stones. Damage on the interior side of the stone wall, both at the ceiling line of the second floor and in the attic will also need to be repaired. On the exterior side the damaged stone repair work may require removal of stone and the debris lodged behind and replaced in its original location. The stone wall's natural arching characteristics along with supplemental bracing by the stone mason making the repairs will allow removal of small areas of stone during the repair work process. Damaged stone work to be repaired with grout injection will need access on the interior side. This will require removal of flat plaster and wood lath to gain access to the interior stone wythe for repairs. Some areas where repointing and minor repair work is required which is covered by wood lath & framed walls with flat plaster or additional hidden areas such as attics may not require removal of interior wall finishes. The drawings depict anticipated areas where removal of interior finishes may be necessary. In all cases where significant movement and displacement has occurred, the recommended repair will be to inject the stone wall with

Photo A-4: South wall damage at roof drain

grout to repair the structural bonding characteristics that have been compromised and to repair the damaged integrity of the existing stone wall. Photo A-4 illustrates the damaged condition around the opening through parapet at the existing roof (scupper) drain. Existing stone work has separated and shifted outwards and will need to be removed and replaced to repair the wall and the opening at the roof (scupper) drain. Similarly damage around existing window openings has occurred and in photo A-5 along with the separation and displacement of the stone around the opening, existing stones have fractured or cracked. During the repair process the stone mason can remove these cracked or split stones and mend them back into one piece with stainless pins and/or epoxy cements. The damaged illustrated in all these photos is typical at all four sides of the existing stone building and the damage, along with the extent of the repairs required, generally increases as you move towards the upper areas of the exterior stone walls.

Photo A-5: Stone sill west wall window

The architectural and structural drawings document all the significant areas of repair and areas of repointing at the exterior of the building. Any proposed repair work including grouting, mending of fractured or cracked stone work and repointing will follow the recommendations in the preservation briefs provided by the National Park Service, U.S. Department of the Interior. Preservation briefs can be found on the National Park Service, U.S. Department of the Interior website for Historic Preservation.

While the building generally received significant damage at all sides, the area of the building that received the greatest impact visually from the earthquake was the front entry tower on the north side of the building facing onto First Street. The top of the tower collapsed internally and the upper wall areas of the tower partially collapsed, fractured stones fell to the ground or roof of the building while other stones that were dislodged precariously hung on fighting gravity. As previously mentioned the top of the tower has been temporarily contained making it possible to safely install the scaffolding while also making safe access possible to further investigate the damage and to ascertain the extent of repair work required.

Closer investigation has revealed that the protruding tower entry structure has been significantly damaged along its full height. The terra cotta columns flanking the double entry doors have been fractured losing a significant amount of the columns' bearing capacity while some of the terra cotta arch stones over the entry opening have slipped downward, no longer in their original

contiguous arched position. The walls of the stone tower as you work your way up from the base bow outward in the east and west direction. Stones have shifted and or been displaced at the exterior corners and at openings. The existing Goodman terra cotta sign which had seen some deterioration over the many years, is in further disrepair from earthquake related damage. Photos A-6 & A-7 illustrate the condition of the tower shortly after the August 2014 earthquake. While preparing to install the containment structure stones continued to shift and dislodge, by the time the containment structure was installed the south west corner sat precariously perched on a single stone. In our opinion, we installed the containment structure just in time, avoiding a potentially significant collapse that appeared imminent.

Photo A-6: Stone Tower as seen from the adjacent building's fire escape

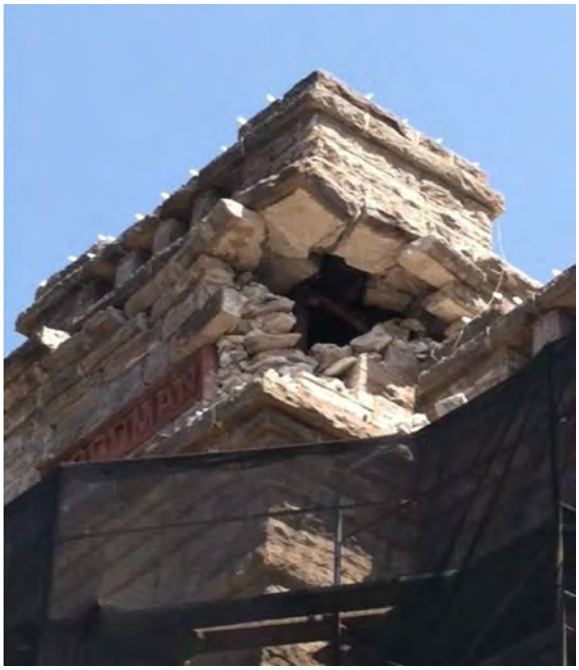


Photo A-7: Stone Tower as seen from First Street with screening installed

Photo A-8 is a view of the south side from the existing roof of the steel containment structure installed around three sides of the stone entry tower. The damaged tower has been temporary wrapped (water proofed) and contained by a steel structure to prevent further significant movement or shifting of the existing large stones. Based upon our initial assessment and inspections by City of Napa Public Works and Building departments, structural engineers and general contractors who have significant experience with stone structures, it was determined that containment was the first priority to minimize the possibility of future additional damage. Containment also has made it possible to safely install the structural rated scaffolding allowing the assessment team to approach the tower structure and other areas of the building to complete the necessary investigation. Another benefit according to the stone masons who saw the damaged structure, containment will minimize the risk to masons during the dismantling process in preparation for the stone tower repair and reconstruction process. The containment

structure is currently anchored to a concrete shear wall located on the interior side of the front stone wall that was installed during a previous seismic retrofit (See Photo A-8) in addition guide cables secure the steel containment structure at four locations to the existing lateral steel bracing system over the existing roof that braces the existing stone parapet walls. Once the stone tower is repaired, the structural engineer as part of the repair has recommended that the tower be braced back to the existing roof. The seismic evaluation of the stone tower structure conceptually envisions a new internal steel bracing system which will be installed during the reconstruction repair. While a significant improvement the limited space for the planned internal steel bracing system will leave the tower in a vulnerable state. The addition of steel braces anchored at the back (south side) of the stone tower (steel braces will not be seen from First Street at ground level) to the existing roof trusses will add the stability and strength to reduce the potential for a significant failure in the future.

Photo A-8: Containment Structure

Planned repair work for the stone tower include dismantling, replacing, anchoring, and fractured stone repairing. Photo A-9 illustrates damaged done to ornamental sand stone column and the displacement of the sandstone arch stone that slipped downward approximately ¾ of an inch in 3 places. Photo A-10 is the east side corner of the tower about a third of the way up from the ground where the bulging of the wall becomes signification noticeable. Anchors and possible a through rod above the sandstone arch way in the east west direction along with some dismantling and replacing of stone appears to be the best approach to the repair work. Once the tower is stabilized east and west the arch stone work can be braced, removed, repaired and reinstalled. The column capital will probably be repaired in the field, the adjacent column flanking the entry has one good side of the capital fully intact. In order to repair the columns to their pre-earthquake condition, we will propose that mold be made from the good side of the capital and then a new capital shaped and attached using epoxy and stainless pins. The front tower work will be time consuming and tedious approximately 25% of the tower is significantly damaged not including the top portion that failed and stone removal, repair and replacement will need to be sequenced to minimize further potential damage.

Photo A-9: Entry Terra Cotta Column & Arch

Photo A-10 Tower Stone at Corner

Other earthquake damage related work that is less significant in scope but important as needed areas of repair and reconstruction work include:

Repair and reinforcement of the separated wood truss heels.
Re-tensioning the relaxed (sagged) roof tie rods to their pre-earthquake condition.
Reconstruction of interior south wall at the roof gable end where several stones of the interior wythe fell into the existing attic space.
Minor reconstruction of interior stone walls at various locations at the attic perimeter.

Significant Interior Repairs

Significant to moderate interior damage occurred to plaster walls on the interior side of the exterior stone walls. Damaged was concentrated at the mid to upper wall areas (particularly at the second floor and the northern half of the first floor), at the interior side of the exterior corners of the building, around existing openings, and around the existing central stair well which is adjacent to the location of a concrete shear brace wall that was installed during a previous seismic retrofit. Significant areas of the flat plaster walls also lost the key connection to the existing wood lath leaving the plaster material hanging in large unattached sheets. In

addition, to get access to the exterior stone walls from the interior side to repair damage and to install injected cementitious grout needed for structural integrity, the repair work will require removal of significant areas of partially damaged plaster walls and the existing wood lath. Removal of plaster and wood lath will expose the existing wood framing and the interior side of the stone walls needing repair work. Complicating the removal process will be the requirement to address the existence of lead based paint found over the existing original flat plaster wall surface. Adding to the plaster removal process, there is a newer thin coat of plaster (appears to have been installed during the retrofit work) that encapsulates the original lead painted flat plaster surface. All these removed surface areas of plaster will need to be disposed of properly as the original painted surfaces tested positive for lead. In general, all painted plaster surfaces need to handled as if once finished with lead paint, repainted surfaces did not show "hot" when tested, but did register that lead was present signaling that newly painted surfaces are covering older painted surfaces which contain lead. On a positive note the plaster was tested for asbestos and no asbestos was detected, the existing original flat plaster predates the period when asbestos fibers were used with interior plaster. Final note, as more than 60 to 70% of the interior plaster wall surface will need to be repaired or removed and repaired, we are considering alternative methods to replace the plaster walls as described in the Department of Interiors preservation guidelines.

When Damaged Plaster Cannot be Repaired — Replacement Options

Partial or complete removal may be necessary if plaster is badly damaged, particularly if the damage was caused by long-term moisture problems. Workers undertaking demolition should wear OSHA-approved masks because the plaster dust that flies into the air may contain decades of coal soot. Lead, from lead based paint, is another danger. Long-sleeved clothing and head-and-eye protection should be worn. Asbestos, used in the mid-twentieth century as an insulating and fireproofing additive, may also be present and OSHA-recommended precautions should be taken. If plaster in adjacent rooms is still in good condition, walls should not be pounded—a small trowel or pry bar is worked behind the plaster carefully in order to pry loose pieces off the wall. When the damaged plaster has been removed, the owner must decide whether to replaster over the existing lath or use a different system. This decision should be based in part on the thickness of the original plaster and the condition of the original lath. Economy and time are also valid considerations. It is important to ensure that the wood trim around the windows and doors will have the same "reveal" as before. (The "reveal" is the projection of the wood trim from the surface of the plastered wall). A lath and plaster system that will give this required depth should be selected. The following are alternative lath systems for new plaster:

Replastering Old Wood Lath *– When plasterers work with old lath, each lath strip is re-nailed and the chunks of old plaster are cleaned out. Because the old lath is dry, it must be thoroughly soaked before applying the base coats of plaster, or it will warp and buckle; furthermore, because the water is drawn out, the plaster will fail to set properly. As noted earlier, if new metal lath is installed over old wood lath as the base for new plaster, many of these problems can be avoided and the historic lath can be retained. The ceiling should still be sprayed unless a vapor barrier is placed behind the metal lath.*

Replastering Over New Metal Lath - *An alternative to reusing the old wood lath is to install a different lathing system. Galvanized metal lath is the most expensive, but also the most reliable in terms of longevity, stability, and proper keying. When lathing over open joists, the plasterer should cover the joists with kraft*

paper or a polyethylene vapor barrier. Three coats of wet plaster are applied consecutively to form a solid, monolithic unit with the lath. The scratch coat keys into the metal lath; the second, or brown, coat bonds to the scratch coat and builds the thickness; the third, or finish coat, consists of lime putty and gauging plaster.

Replastering Over New Rock Lath *- It is also possible to use rock lath as a plaster base. Plasterers may need to remove the existing wood lath to maintain the woodwork's reveal. Rock lath is a 16x36-inch, 1/2-inch thick, gypsum-core panel covered with absorbent paper with gypsum crystals in the paper. The crystals in the paper bond the wet plaster and anchor it securely. This type of lath requires two coats of new plaster—the brown coat and the finish coat. The gypsum lath itself takes the place of the first, or scratch, coat of plaster.*

Several areas of the plaster ceilings at the first floor (northern half of the building) also received significant to moderate damage to interior plaster castings, mouldings and wood trim work was also damaged or displaced. It was noted that the entry terrazzo floor which had some wear and minor cracks was also damaged with existing cracks being enlarged and new damage observed. The second floor ceiling & ceiling moulding is a painted pressed tin (metal) panel system, some of the panels came loose during the seismic event and areas of the tin edge mouldings were displaced. Many tin panels will need to be removed, cleaned and reattached. Carefully handling of these disturbed materials will need to be noted as potentially containing lead.

Interior Plaster at Corner

In the adjacent photo the interior plaster dislodged from the existing wood lath and severely cracked in several locations. During the initial assessment it was noted that large areas of the plaster wall finish have lost the key connection to the wood lath. Having become detached the plaster wall surfaces hangs unattached to the supporting wood wall framing With the discovery of the need to expose the interior side of existing stone walls for repair, significant areas of existing plaster and wood lath will need to be removed. As much of the wood lath appears to be in good condition, with the discovery of the need to expose the interior side of existing stone walls for repair, significant areas of existing plaster and wood lath will need to be removed. As much of the wood lath appears to be in good condition, reinstalling the wood lath in conjunction with metal lath (install metal lath over the wood) light be a viable option. Alternatively, for cost and construction ease considerations, plaster over gypsum lath probably should be a bid alternative.

Interior Plaster at Central Stair

In the adjacent photo the interior cracks are enhanced by blue painters tape. These large surfaces have experienced substantial cracking and much of the plaster finish is detached from the wood lath that it covers. These large areas of detached plaster are also located in the area of the concrete brace wall and much of this area will need to be exposed during the process of re-anchoring the stone, these plaster surfaces will be removed in this location.

Plaster Corbels, Walls & Wood Trim

The grand entry hall, shown in the adjacent photo, the damage was significant; cracked plaster walls, detached wood trim and cast plaster corbels were found damaged. The damaged plaster corbel will be repaired from moulds and castings made from undamaged areas during the restoration repair process. Loose plaster wall surfaces and areas where the plaster key has broken free will be removed and/or repaired. The plaster ceiling areas that received moderate damage will be checked for tightness to the existing wood lath. All painted plaster surfaces will he handled properly for lead abatement. In several locations in particular at interior corners, significant plaster damage occurred. See adjacent photo at lower central stair landing. Wall plaster became detached and large areas of plaster fell off the wall to the floor, wood lath cracked and became detached or became loose and wood trim attached to the plaster wall and wood lath was damaged. The painted plaster surfaces will be handled properly for lead abatement. The existing stained woodwork was also tested for lead, no lead was found in the woodwork stain finish.

Below the central stair is a small bathroom that was severely damaged. Finished with plaster and wood bead board siding, all materials became loose or disconnected from its supporting stair framing. This limited area will need to have finishes removed to complete the repair.
Goodman Assessment Update

Plaster Walls and Ceilings
The Tea Room and adjoining Kitchen received significant damage both at plaster walls and ceiling areas. In some areas the wood mouldings came loose at the damaged plaster areas. Damage in the adjoining kitchen area will require removal of cabinets and wood doors, trim, etc. to repair significant damage to walls and ceilings. The office across the hall has some wall hung cabinets that will need to be removed during the repair process.

Flooring is generally in fair to good condition but may need to be removed and replaced during the construction process.

Painting will be required throughout the interior to include walls and ceiling will upon completion of the repair work.

Staining of interior woodwork including trim, doors, mouldings and casework will need to be touched up and/or re-stained based upon the scope of the repair work required.

The entry terrazzo floor sustained earthquake damage and will also need some repair work.

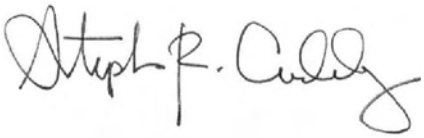
Plaster Wall to Tin Ceiling Panels & Trim

In the photo below the coved trim at the painted tin ceiling had broken loose and was displaced. During the seismic event, several tin ceiling panels became dislodged and were hanging freely; these tin ceiling panels were temporarily re-anchored. In areas where tin ceiling panels became detached it is recommended that a few panels be removed and the wood strip furring system be inspected and repaired and reattached if detachment occurred.

These decorative features have been documented on the drawings and will be recommended to be repaired and/or removed, repaired and re-installed as part of the repair and restoration construction documents. Many of these surfaces were also repainted and will need to be properly noted and handled for the lead potential.

Many of these interior finish surfaces and elements (plaster castings, wood trim & mouldings, pressed tin ceiling system) are unique to this historic building type and the period of time it was designed and constructed. The interior repair and restoration work will be guided by the Secretary of Interior Standards for Historic Structures.

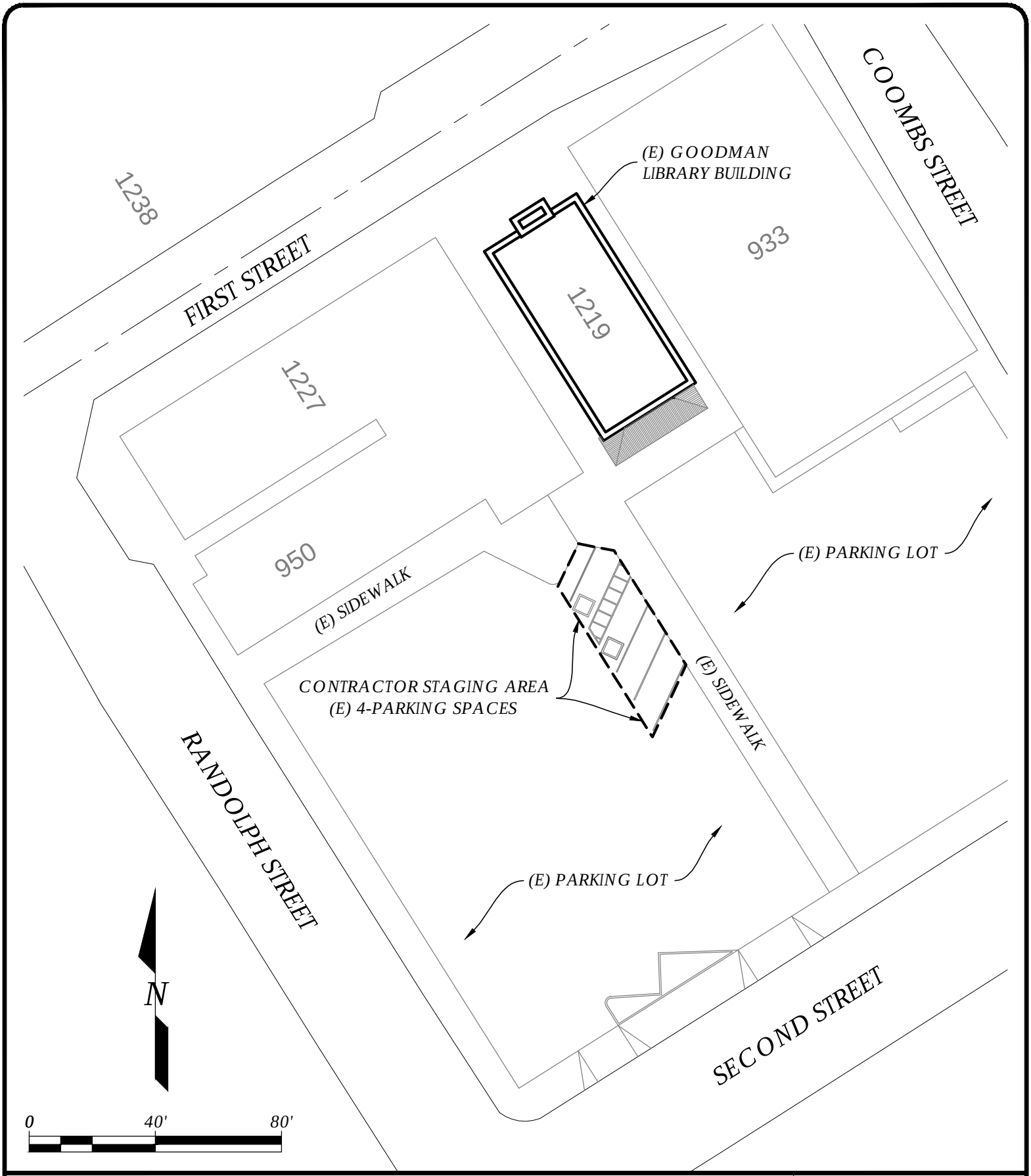
Prepared by:



Stephen R. Cuddy, AIA
Historic Preservation Architect
Napa Design Partners, LLP

APPENDIX F

CONTRACTOR STAGING AREA



CITY OF NAPA

PUBLIC WORKS DEPARTMENT

GOODMAN LIBRARY
CONTRACTOR STAGING AREA
APPENDIX F

DRAWN BY:	LFM
CHECKED BY:	EC
APPROVED BY:	EC
DATE:	7/11/2016
SCALE:	1" = 40'
DRAWING NO.	APPENDIX F

G:\PubWrks\ALL PROJECT FILES\CIP\Earthquake 2014 Damage Repair to City Buildings DR15BLDG\Goodman Library\Library Repair\300-DESIGN\Specifications\Caltrans 2015 Based\Exhibit-Contractor Staging Area.dwg

APPENDIX G

SPECIAL INSPECTIONS

COMMUNITY DEVELOPMENT DEPARTMENT
Building Division
1600 First Street
PO Box 660
Napa, California 94559-0660
(707)257-9540 FAX: (707)257-9522

SPECIAL INSPECTION PROPOSAL FORM

Note: this form must be completed by the Owner or Architect/Engineer of Record and approved by the Building Official prior to issuance of a Building Permit. The qualified individual special inspector must be identified along with their firm. The special inspector may not be employed by the contractor or anyone responsible for the construction work.

PROJECT 1219 1st St - Goodman Library Repairs **DATE** 2016-09-15

OWNER City of Napa **PERMIT APPLICATION NUMBER** 2016-09-21 revised

PROPOSED SPECIAL INSPECTOR Firm: _____ and Individual: _____
(Please fill out one of these forms for each Special Inspector on this project. Attach proposed inspector's qualifications.)

PROPOSED TESTING AGENCIES _____
(Specify which category they are testing.)

TYPES OF INSPECTIONS REQUIRED: Check each type of inspection required by Architect/Engineer of Record as indicated on the approved building plans and specifications.

1. CONCRETE

Inspection Scope & Schedule* Exempt due to limited scope

Frequency of Sampling Materials _____

Frequency of Testing _____

2. BOLTS INSTALLED IN CONCRETE

Inspection Scope & Schedule* _____

_____

3. SPECIAL MOMENT - RESISTING CONCRETE FRAME

Inspection Scope & Schedule* _____

_____

Frequency of Sampling Materials _____

Frequency of Testing _____

4. REINFORCING STEEL AND PRESTRESSED STEEL TENDONS

Inspection Scope & Schedule* _____

_____

Method of Testing _____

5. WELDING

A. SPECIAL MOMENT - RESISTING STEEL FRAMES

Inspection Scope & Schedule* _____

_____

Type of non-destructive testing _____

Frequency of Tests _____

B. STRUCTURAL WELDING INCLUDING REINFORCING STEEL

Inspection Scope & Schedule* Fillet, partial penetration, and complete penetration welds

Type of non-destructive testing Visual at fillets, NDT at penetration welds as determined by Testing Agency

Frequency of Tests Periodic at fillets, Continuous at penetration welds

6. HIGH-STRENGTH BOLTING

Inspection Scope & Schedule* Various snug-tight bolts

Method of Testing See specifications for multiple acceptable methods

Frequency of Testing See specifications

7. STRUCTURAL MASONRY

Inspection Scope & Schedule* Reconstruction, grout injection, and repointing of stone masonry

Frequency of Sampling Materials First use of each product or mix design on project

Frequency of Testing 7 and 28 day compressive tests

8. REINFORCED GYPSUM CONCRETE

Inspection Scope & Schedule* _____

Frequency of Sampling Materials _____

Frequency of Testing _____

9. INSULATING CONCRETE FILL

Inspection Scope & Schedule* _____

Frequency of Sampling Materials _____

Frequency of Testing _____

10. SPRAYED-ON FIREPROOFING

Inspection Scope & Schedule* _____

Method of Inspection _____

Frequency of Sampling Materials _____

Frequency of Testing _____

11. PILING, DRILLED PIERS AND CAISSONS

Inspection Scope & Schedule* _____

Method of Inspection _____

12. SHOTCRETE

Inspection Scope & Schedule*_____

_____

Method of Inspection_____

Frequency of Sampling Materials_____

Frequency of Testing_____

13. SPECIAL GRADING, EXCAVATION AND FILLING

Inspection Scope & Schedule*_____

_____

Method of Testing Soil Density_____

14A. SPECIAL CASES TYPE: Adhesive anchors into stone masonry

Inspection Scope & Schedule* See drawings

_____

Method of Inspection Visual, tension, and torque; see drawings

Other_____

14B. SPECIAL CASES TYPE: Expansion & screw anchors at concrete

Inspection Scope & Schedule* Stainless steel expansion anchors at fire escape columns

Screw anchors at tower truss to concrete wall

Method of Inspection Visual; see drawings for requirements

Other_____

14C. SPECIAL CASES TYPE: Installation of glued hardwood shims at 1/S2.1 and 5/S5.1

Inspection Scope & Schedule* Continuous; shims shall be tight fit, match footprint of gap, and be thoroughly glued on all contact surfaces

Method of Inspection Visual

Other_____

SPECIAL INSPECTOR CERTIFICATION:
I hereby certify that I am qualified to perform the special inspection items marked above, that I will perform the special inspections at the appropriate times scheduled by the contractor and that I will submit weekly and final reports.

Special Inspector: _____ **Date:**_____

OWNER CERTIFICATION: (May be signed by Architect /Engineer of Record on Owner's behalf.)
I hereby certify that I will employ the aforementioned Special Inspector to perform the inspections shown above.

Owner:_____ **Date:**_____

BUILDING OFFICIAL'S APPROVAL OF PROPOSAL OF SPECIAL INSPECTION:

Building Official:_____ **Date:**_____

Note:
Special Inspection weekly reports must be submitted to the owner and to the Building Official within 5 working days of the last day of the week being reported to avoid Suspension of the Building Permit and possible Stop Work Order.
A monthly summary letter is required for overall status including any outstanding items that require follow-up. The final special inspection approval letter(s) must be submitted before use or occupancy. Any variation to the special inspection proposal requires prior approval of the Building Official.

*(extent of work inspected; continuous or periodic, frequency)