



CITY OF PETALUMA

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PETALUMA, CA 94953-0061

Teresa Barrett
Mayor

Brian Barnacle
D'Lynda Fischer
Mike Healy
Dave King
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Dennis Pocekay
Councilmembers

June 17, 2021

REQUEST FOR PROPOSAL (RFP) FOR PERMITTING, FINAL DESIGN, AND CONSTRUCTION SERVICES FOR THE FOR THE WASHINGTON STREET BRIDGE SEISMIC REHABILITATION PROJECT.

INTRODUCTION

The City of Petaluma Public Works & Utilities Department (The City) is requesting technical proposals from qualified consulting firms interested in providing Permitting, Final Design, and Construction Services for the Washington Street Bridge Seismic Rehabilitation Project.

The City will enter into a Professional Service Agreement (PSA) with the top qualified firm to provide geotechnical and structural design services.

SCOPE OF SERVICES

The Washington Street Bridge is a 2-span precast concrete I-girder structure that carries Washington Street over the Petaluma River. A structural engineering consultant, Biggs Cardosa Associates, performed a Seismic Vulnerability Analysis in May 2010. Based on their preliminary analysis, the bridge may be vulnerable to collapse during a maximum credible earthquake. Therefore, the Washington Street Bridge Seismic Rehabilitation project includes the seismic retrofit of the Washington Street bridge. In addition, the project is federally funded and is required to follow federal and state requirements specified in the Caltrans Local Assistance Procedure Manual (LAPM).

The City recently concluded its environmental studies for the project and has obtained National Environmental Policy Act (NEPA) clearance through the Caltrans environmental clearance process. The preliminary design and environmental studies phases of the project are complete as of May 5, 2021; thus, the project can now enter the final design phase. Therefore, the City is requesting the qualified Consultant and necessary subconsultants partner with the City to finalize the bridge design and provide construction documents. The Design Consultant and its team will need to:

Public Works & Utilities

City Engineer
11 English Street
Petaluma, CA 94952
Phone (707) 778-4303

Environmental Services
Ellis Creek –
Water Recycling Facility
3890 Cypress Drive
Petaluma, CA 94954
Phone (707) 776-3777
Fax (707) 656-4067

Parks & Facility Maintenance
840 Hopper St. Ext.
Petaluma, CA 94952
Phone (707) 778-4303
Fax (707) 206-6065

Transit Division
555 N. McDowell Blvd.
Petaluma, CA 94954
Phone (707) 778-4421

Utilities & Field Operations
202 N. McDowell Blvd.
Petaluma, CA 94954
Phone (707) 778-4546
Fax (707) 206-6034

E-Mail:
publicworks@cityofpetaluma.org

- Consultant may need to provide Survey and Mapping services or collect additional data. The Consultant should be able to provide topographic survey, including utility, property boundary, right of way, and easement locations.
- Review existing data, the submitted and approved environmental clearance, and the Draft Seismic Retrofit Strategy Report prepared by Biggs Cardosa Associates Inc., as well as provide necessary modifications, address issues, and make recommendations to finalize the design and report. If significant changes to the preliminary design are required, the Consultant may need to review the City's Caltrans NEPA clearance to confirm no additional environmental clearance is needed.
- Provide and submit a Final Design Strategy Selection Report to Caltrans for review and approval. This report should outline the proposed Final Design, implementation strategies, as well as its selection process. This report must be approved by Caltrans prior to proceeding with preparation of any other final design documents.
- Provide a Final Geotechnical Report with Recommendations. The Consultant may need to perform additional geotechnical studies and shall provide recommendations for seismic design criteria, foundation design, and seismic retrofit construction of the Washington Street Bridge Seismic Retrofit Project.
- Provide Washington Street Bridge Structural Design Documents. The Consultant shall prepare a comprehensive Basis of Design Report selecting the design, construction method, identifying all obstacles and remedies, prepare construction documents for the Washington Street Bridge Seismic Retrofit project, provide a construction cost estimate, and provide technical specifications for bidding of the project. The construction documents prepared by the Consultant shall be bid ready.
- Provide Consulting during Construction. The selected Consultant would provide assistance during construction by approving of submittals, assistance during construction period for clarification or changes in the field, and assistance through successful completion of the project (Optional Task).
- Federal Funding requirements state that the project must begin construction no later than September 30, 2022, no exception. Therefore, all work resulting from this proposal shall be completed within four (4) months from Notice to Proceed (NTP).

RESPONSE TO RFP

Technical and Cost Proposals **must** be received by the City of Petaluma by **2:00 PM, Thursday July 8, 2021**. At or before the time mentioned above, Consultants shall send an email to **Jonathan Sanglerat, P.E. at the email: jsanglerat@cityofpetaluma.org**, which shall contain the following three (3) **separate** attachments:

1. Electronic (PDF) copy of the Consultant's Technical Proposal.
2. Electronic (PDF) copy of the Consultant's Cost Proposal.
3. Electronic (PDF) copy of the Consultant's required Exhibits.

Technical Proposal PDFs for the project shall be limited to a maximum of fifteen (15) single-sided pages, **excluding** necessary Appendices. Specific requirements are described as follows. All electronic attachments should be clearly labeled to make it easy for the City to identify the separate documents.

For questions or clarifications, contact Jonathan Sanglerat, P.E., by phone (707) 778-4355 or by email at jsanglerat@cityofpetaluma.org.

1.0 TECHNICAL PROPOSAL REQUIREMENTS

1.1 COVER LETTER

Provide a cover letter signed by an official authorized to bind the firm, and the letter shall contain a statement that the firm is able to sign the City of Petaluma's standard PSA (**Attachment A**). Due to firm funding requirements and timelines, no negotiations to any contract language in our PSA will be granted.

1.2 INTRODUCTION

Provide an overview of the firm's qualifications as they relate to providing similar design and construction services to municipal agencies. Include a brief description of your understanding of the project and services to be provided for the City of Petaluma. Identify your project management and technical approach to providing the services for the successful completion of this project.

1.3 PROJECT TEAM ORGANIZATION

Identify proposed team members and work on similar projects; include an organizational chart. List all subconsultants including contact information and areas of expertise. Briefly describe the roles of the prime Consultant and subconsultants. Provide information regarding the size and years in business of your firm and each subconsultant.

1.4 TECHNICAL APPROACH / SCOPE OF WORK

Describe your technical approach for completing the scope of services. Identify and detail specific tasks necessary to complete the work. Proposers are encouraged to amplify the scope of work, to identify any supplemental tasks necessary, and to recommend alternatives, to enhance the project or reduce costs.

1.5 REFERENCES

Provide three (3) project-related references with details including project description, name, company, address, email address, and telephone number.

1.6 COST PROPOSAL

The Consultant will perform the services stated in the contract for an agreed amount as compensation. The cost proposal shall define the total lump sum contract price to satisfy the scope of services and complete the work as proposed. The Consultant shall provide a rate table for themselves as well as their subconsultants. The cost proposal shall include:

- A listing of tasks required to accomplish the proposed scope of services;
- An estimate of the labor hours for each position classification and task including level of effort;
- The proposed hourly fee schedule for calendar year 2021;
- All other reimbursable fees and expenses (noting that the City does **not** pay for lodging, vehicles, and travel time);
- Assumptions upon which the estimate is based; and
- Mark-up on other direct costs (ODC), not to exceed five (5) percent

2.0 SELECTION PROCESS

2.1 EVALUATION CRITERIA

The City's evaluation criteria for submitted proposals is detailed as follows, 100 points total:

- **Completeness of Response (Pass/Fail)**
 - a. Responses to this RFP must be complete. Responses that do not include the proposal content requirements identified within this RFP and subsequent addenda and do not address each of the items listed will be considered incomplete and will receive no further consideration.
- **Conflict of Interest Statement (Pass/Fail)**
 - a. Discloses any financial, business, or other relationship with the City of Petaluma that may have an impact upon the outcome of the contract or construction project.
 - b. Lists current clients who may have a financial interest in the outcome of this contractor or the construction project that will follow.
 - c. Discloses any financial interest or relationship with any construction company that might submit a bid on the construction project.
- **Qualifications & Experience (20 points)**
 - a. Relevant experience, specific qualifications, and technical expertise of the firm and sub-consultants to conduct permitting, final design, and construction services.
 - b. Recent bridge and/or related seismic retrofit projects that have been completed.
 - c. Experience working on both federal and nonfederal-aid projects as well as experience working with Caltrans.
- **Team Organization (20 points)**
 - a. Describes familiarity of project and demonstrates understanding of work completed to date and project objectives moving forward.
 - b. Roles and Organization of Proposed Team
 - i. Show adequate and appropriate disciplines of project team for services provided.
 - ii. Identify where team members have previously worked together on similar project(s).
 - c. Project Management Approach
 - i. Show Team is managed by an individual with appropriate experience in similar projects. Provide the time this person is committed to the project.

- ii. Identify how Team will successfully address all aspects of the planning, design, and construction of this project.
 - iii. List all project constraints and Team’s approach to addressing these constraints.
 - iv. Show that the Team structure provides adequate capability to perform both volume and quality of needed work within project schedule milestones.
 - d. Roles of Key Individuals on the Team
 - i. List all key positions needed to execute work.
 - ii. Show that the Team members, as demonstrated by enclosed resumes, have relevant experience for their role in the project. **Note: Resumes can be included as Appendices and therefore will not count towards the PDF page limits.**
 - e. Working Relationship with Public Works
 - i. Team and its leaders have experience working in the public sector and knowledge of public sector procurement process.
 - ii. Team leadership understands the nature of public sector work and its decision-making process.
 - iii. Proposal responds to the need to assist the City of Petaluma during the project.
- **Technical Approach and Scope of Services to be Provided (35 points)**
 - a. Identify the technical approach to be followed by the Project Team and how the Project Team will be pro-active to mitigate project issues.
 - b. Include a Detailed Scope of Services to be used.
 - i. Proposed scope of services is appropriate for all phases of the work.
 - ii. Provide a Scope that addresses all known project needs and appears achievable in the timeframes set forth in the project schedule.
 - c. Project Deliverables
 - i. Deliverables are appropriate to the schedule and scope set forth in above requirements.
 - ii. Identify key milestones in the project development.
- **Project Schedule (15 points)**
 - a. Schedule shows work completion date.
 - b. Identify the project timeline with all major milestones and required submittals for project management and permitting compliance.
 - c. The schedule should address all knowable phases of the project, in accordance with the general requirements of this RFP Funding requirements – drop dead in construction by.
- **References (10 points)**
 - a. Provide a minimum of three references for similar projects.

3.0 GENERAL INFORMATION

3.1 NEGOTIATION OF CONTRACT

After selection of the Consultant, the City and the Consultant shall negotiate the contract under which the work shall be performed. All items submitted in the Consultant’s proposal shall be subject to negotiation.

3.2 PROFESSIONAL SERVICES AGREEMENT

The successful firm will be required to execute the City of Petaluma’s Standard Professional Services Agreement (**see Attachment A**). The Consultant should assume that no exceptions to this agreement will be accepted and that any Consultant submitting a proposal must be prepared to execute this agreement without modification.

3.3 FEDERAL AID PROVISIONS

The proposing Consultant’s services are federally funded which necessitate compliance with additional requirements. The proposing Consultant shall complete and submit the following forms with the proposal to be considered responsive. These forms and instructions are attached.

- DBE Proposal Commitment, attachment F. The City’s current contract DBE Goal is Seven (7) Percent.

Upon award and through completion of the project, the successful proposing Consultant will be required to follow applicable federal-aid requirements and may be required to complete and submit with the agreement the following forms at the time of award:

- DBE Contract Commitment (LAPM 10-O2)
- DBE Information Good Faith Effort (LAPM 15-H), required only if DBE goal is not achieved.
- Any other relevant forms required during the project.

3.4 ESTIMATED SCHEDULE

Advertisement Date	June 17, 2021
Proposal Due Date	2:00 PM on July 8, 2021
Proposal Selection by City of Petaluma	July 29, 2021
City Council Award	September 13, 2021
PSA Executed / Notice to Proceed Issued	October 4, 2021
Final Design and Construction Bid Documents Due	February 4, 2022
Project Construction Bidding Phase Start	February 10, 2022
Start of Construction (Hard Deadline)	September 30, 2022

If any further information is required, please contact me at (707) 778-4355. Your interest in this project is greatly appreciated.

Sincerely,



Jonathan Sanglerat, P.E.
Associate Civil Engineer
City of Petaluma

Enclosures:

- Attachment A: Standard Professional Services Agreement
- Attachment B: Insurance Information – Exhibit B
- Attachment C: Prevailing Wage Information – Exhibit C
- Attachment D: Living Wage Information – Exhibit D
- Attachment E: Notice to Proposers DBE Information – Exhibit 10-I (Caltrans)
- Attachment F: DBE Proposal Commitment – Exhibit 10-O1 (Caltrans)
- Attachment G: Project Location
- Attachment H: Draft Seismic Retrofit Strategy Report
- Attachment I: Project Environmental Clearance letter from Caltrans

ATTACHMENT A
PROFESSIONAL SERVICES AGREEMENT

(Title of Project)

FY _____ Fund # _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

For multi-year contracts or contracts with multiple accounts:

FY _____ Fund # _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

FY _____ Fund # _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

FY _____ Fund # _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

FY _____ Fund # _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

FY _____ Fund # _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

THIS PROFESSIONAL SERVICES AGREEMENT (“Agreement”) is entered into and effective as of _____, 20____ (“Effective Date”), by and between the City of Petaluma, a
(city use only)

municipal corporation and a charter city (“City”) and _____, a _____ (“Consultant”) (collectively, the “Parties”).

WHEREAS, the Parties enter into this Agreement for the purpose of Consultant providing professional services to City under the terms and conditions set forth herein.

THEREFORE, in consideration of the mutual covenants contained in this Agreement, the Parties agree as follows:

1. **Services.** Consultant shall provide the services as described in and in accordance with the schedule set forth in Exhibit “A” attached hereto and incorporated herein (“Services”).
2. **Compensation; Business Tax Certificate.**
 - A. For the full performance of the Services as described herein, City shall compensate Consultant in accordance with the rates specified in Exhibit A.
 - B. Consultant shall submit detailed monthly invoices reflecting all services performed during the preceding month and including a revised schedule for performance and additional documentation requested by City, as applicable.
 - C. Consultant shall be compensated for services in addition to those described in Exhibit A, only if Consultant and City execute a written amendment to this Agreement describing the additional services to be performed and the compensation to be paid for such services. In no case shall the total compensation under this Agreement exceed \$_____ without prior written authorization of the City Manager. Further, no compensation for a section or work program component attached with a specific budget shall be exceeded without prior written authorization of the City Manager.
 - D. Notwithstanding any provision herein, Consultant shall not be paid any compensation until such time as Consultant has on file with the City Finance Department a current W-9 form available from the IRS website (www.irs.gov) and has obtained a currently valid Petaluma business tax certificate.

- E. City's obligation to pay compensation to Consultant as provided herein is contingent upon Consultant's performance of the Services pursuant to the terms and conditions of this Agreement and any amendments thereto.
3. **Term.** The term of this Agreement commences on the Effective Date, and terminates on _____, unless sooner terminated in accordance with Section 4. Upon termination, any and all of City's documents or materials provided to Consultant and any and all of the documents or materials prepared for City or relating to the performance of the Services, shall be delivered to the City as soon as possible, but not later than fourteen (14) days after termination of the Agreement.
 4. **Termination.** City may terminate this Agreement without cause upon ten (10) days' written notice. City may immediately terminate or suspend this Agreement for cause. Cause for immediate termination or suspension shall include, but not be limited to, any breach of this Agreement by Consultant or Consultant's bankruptcy or insolvency. Upon receipt of notice of termination or suspension for cause, Consultant shall immediately stop all work in progress under this Agreement. In the event of early termination of this Agreement by City, Consultant shall be entitled to payment for all Services performed to the date of termination to the extent such Services were performed to the satisfaction of City in accordance with the terms and conditions of this Agreement. If City terminates this Agreement for cause, Consultant shall be liable to City for any excess cost City incurs for completion of the Services.
 5. **Consultant's Representation; Independent Contractor.** Consultant represents that Consultant possesses distinct professional skills in performing the Services. City has relied upon said representation as a material inducement to enter into this Agreement. Consultant shall, therefore, provide properly skilled professional and technical personnel to perform all Services under this Agreement. It is expressly understood that Consultant and its agents and employees, shall act in an independent capacity and as an independent contractor and not as officers, employees or agents of City. This Agreement shall not be construed as an agreement for employment.
 6. **Facilities and Equipment.** Consultant shall, at its sole cost and expense, furnish all facilities and equipment that may be required for furnishing Services pursuant to this Agreement. City shall furnish to Consultant no facilities or equipment, unless the City otherwise agrees in writing to provide the same.
 7. **Licenses, Permits, Etc.** Consultant shall, at Consultant's sole cost and expense, keep in effect at all times during the term of this Agreement any licenses, permits or other such approvals which are legally required for performing the Services.
 8. **Time.** Consultant shall devote such time to the performance of the Services as may be reasonably necessary for satisfactory performance of Consultant's obligations pursuant to this Agreement.
 9. **Inspection.** Consultant shall provide the City every reasonable opportunity to ascertain that the Services are being performed in accordance with the requirements and intentions of this Agreement. All work done and materials furnished, if any, shall be subject to inspection and approval by the City. The inspection of such work shall not relieve Consultant of any of its obligations pursuant to this Agreement.

10. **Progress Reports.** Upon the City's request, Consultant shall provide, in a form acceptable to City, written progress reports of all oral and written observations, opinions, recommendations, analyses, progress and conclusions related to Consultant's performance of the Services.
11. **Confidentiality.** In the course of Consultant's employment, Consultant may have access to trade secrets and confidential information, disclosure of which is protected or limited by law. Consultant shall not directly or indirectly disclose or use any such confidential information, except as required for the performance of the Services.
12. **Conflict of Interest.** Consultant represents that it presently has no interest, and covenants that it shall not acquire any interest, direct or indirect, financial or otherwise, which would conflict in any manner or degree with the performance of the Services hereunder. Consultant further covenants that, in the performance of this Agreement, it shall not employ any subcontractor or person having such a conflict of interest. Consultant represents that no one who has or will have any financial interest under the Agreement is an officer or employee of City. If such conflict of interest arises during this Agreement or any extension, Consultant will immediately advise City and City may, at its sole discretion, immediately terminate this Agreement. Certain Consultants are subject to the requirements, including the disclosure and reporting requirements, of the City's Conflict of Interest Code adopted pursuant to the Political Reform Act. Such Consultants subject to the City's Conflict of Interest Code include those whose work may involve: making government decisions regarding approval or adoption of rates, rules, or regulations, action on permits or other applications, authorization to enter into or modify contracts, or approval of plans, designs, reports, or studies. Consultant agrees to comply fully with all such requirements to the extent they apply to Consultant's performance of the Services.
13. **Consultant No Agent.** Except as City may specify in writing, Consultant shall have no authority, express or implied, to act on behalf of City in any capacity whatsoever as an agent. Consultant shall have no authority, express or implied, pursuant to this Agreement to bind City to any obligation whatsoever.
14. **Standard of Performance.** Consultant shall perform all the Services in a manner consistent with the standards of Consultant's profession. All instruments of service of whatsoever nature, which Consultant delivers to City pursuant to this Agreement, shall be prepared in a substantial, workmanlike manner and conform to the standards of Consultant's profession. All such instruments of service shall become the sole and exclusive property of City upon delivery of the same.
15. **Assignment/Transfer.** No assignment or transfer in whole or in part of this Agreement shall be made without the prior written consent of City.
16. **Subcontractors.** Consultant shall directly perform all Services, and shall not subcontract any portion of performance of the Services without the prior written consent of City. Any such subcontractors shall be required to comply, to the full extent applicable, with the terms and conditions of this Agreement, including but not limited to, procuring and maintaining insurance coverage as required herein and which shall name City as an additional insured.

17. **Compliance With All Laws.** Consultant shall fully comply with all applicable local, state and federal rules, laws, regulations and ordinances pertaining to the performance of the Services required hereunder, including but not limited to, the California Building Standards Code as in effect in the City, the Americans with Disabilities Act, and any laws and regulations related to any copyright, patent, trademark or other intellectual property right involved in performance of the Services. Consultant's failure to comply with any law(s) or regulation(s) applicable to the performance of the Services hereunder shall constitute a material breach of this Agreement. To the extent that any other government agency or entity provides compensation for any Services, Consultant shall comply with all rules and regulations applicable to such fiscal assistance.
18. **Prevailing Wages.** This Agreement is subject to the requirements of the California Prevailing Wage Law, California Labor Code Section 1720 et seq., and the Services as described in Exhibit A will be performed in accordance with all applicable requirements of the California Prevailing Wage Law, including, but not limited to, all applicable requirements contained in Exhibit C, which is attached to and made a part of this Agreement.
19. **Living Wage Ordinance.** Without limiting the foregoing Section 17, Consultant shall comply fully with all applicable requirements of Petaluma Municipal Code, Chapter 8.36, Living Wage (the "Living Wage Ordinance"), as the same may be amended from time to time. Upon the City's request Consultant shall promptly provide to the City documents and information verifying Consultant's compliance with the requirements of the Living Wage Ordinance, and shall within fifteen (15) calendar days of the Effective Date of this Agreement, notify each of its affected employees as to the amount of wages and time off that are required to be provided to them pursuant to the Living Wage Ordinance. The Acknowledgement and Certification Pursuant to City of Petaluma Living Wage Ordinance, attached to this Agreement at Exhibit D, shall be a part of this Agreement for all purposes, and Consultants that are subject to Living Wage Ordinance requirements, as determined by the City, must provide a properly completed Exhibit D in accordance with the requirements of the Living Wage Ordinance. Consultant's noncompliance with the applicable requirements of the Living Wage Ordinance shall constitute cause for City's termination of this Agreement pursuant to Section 4 hereof.
20. **Discrimination.** During the performance of this Agreement, Consultant shall not discriminate against any employee or applicant for employment because of race, religion, creed, color, national origin, ancestry, gender, sexual orientation, age or physical or mental disability in violation of any applicable law.
21. **Notice.** Except as otherwise specified in this Agreement, all notices to be sent pursuant to this Agreement shall be made in writing, and sent to the Parties at their respective addresses specified below or to such other address as a Party may designate by written notice delivered to the other Party in accordance with this Section. All such notices shall be sent by:
 - (i) personal delivery, in which case notice is effective upon delivery;
 - (ii) certified or registered mail, return receipt requested, in which case notice shall be deemed delivered on receipt if delivery is confirmed by a return receipt;

- (iii) nationally recognized overnight courier, with charges prepaid or charged to the sender's account, in which case notice is effective on delivery if delivery is confirmed by the delivery service; or
- (iv) facsimile transmission, in which case notice shall be deemed delivered upon transmittal, provided that (a) a duplicate copy of the notice is promptly delivered by first-class or certified mail or by overnight delivery, or (b) a transmission report is generated reflecting the accurate transmission thereof. Any notice given by facsimile shall be considered to have been received on the next business day if it is received after 5:00 p.m. recipient's time or on a nonbusiness day.

City: City Clerk
 City of Petaluma
 Post Office Box 61
 Petaluma, California 94953
 Phone: (707) 778-4360
 Fax: (707) 778-4554
 Email: cityclerk@ci.petaluma.ca.us

And:

 Phone: _____
 Fax: _____
 Email: _____

Consultant: _____

 Phone: _____
 Fax: _____
 Email: _____

22. **Ownership of Documents.** All original papers, documents or computer material on disk or microfilm, and copies thereof, produced as a result of this Agreement, shall be the property of City and may not be used by Consultant without the written consent of City. Copies of such documents or papers shall not be disclosed to others without the written consent of the City Manager or his or her designated representative.

23. **Indemnification.** To the maximum extent permitted by law, Consultant shall, at its own expense, indemnify, defend with counsel acceptable to the City, (which acceptance will not be unreasonably withheld), and hold harmless City and its officers, officials, employees, agents and volunteers ("Indemnitees") from and against any and all alleged liability, loss, damage, claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, civil penalties and fines, expenses and costs (including, without limitation, claims expenses, attorney's fees and costs and fees of litigation) (collectively, "Liability") of every nature, whether actual, alleged or threatened, arising out of or in connection with the Services or Consultant's failure to

comply with any of the terms of this Agreement, regardless of any fault or alleged fault of the Indemnitees.

The Consultant's obligation to indemnify, defend and hold harmless under this provision shall not be excused because of the Consultant's inability to evaluate Liability, or because the Consultant evaluates Liability and determines that the Consultant is not or may not be liable. The Consultant must respond within 30 calendar days to any tender for defense and indemnity by the City, unless the time for responding has been extended by an authorized representative of the City in writing. If the Consultant fails to accept tender of defense and indemnity within 30 calendar days, in addition to any other remedies authorized by law, so much of the money due or that may become due the Consultant under this Agreement as shall reasonably be considered necessary by the City, may be retained by the City until disposition has been made of the matter subject to tender, or until the Consultant accepts the tender, whichever occurs first. In the event that the City must file responsive documents in a matter tendered to Consultant prior to Consultant's acceptance of tender, Consultant agrees to fully reimburse all costs, including but not limited to attorney's fees and costs and fees of litigation, incurred by the City in filing such responsive documents.

The Consultant waives any and all rights to express or implied indemnity against the Indemnitees concerning any Liability of the Consultant arising out of or in connection with the Services or Consultant's failure to comply with any of the terms of this Agreement. The Consultant's responsibility of such defense and indemnity obligations shall survive the termination or completion of this Agreement for the full period of time allowed by law. The defense and indemnification obligations of this Agreement are undertaken to, and shall not in any way be limited by, the insurance obligations contained in this Agreement.

Notwithstanding the foregoing, to the extent this Agreement is a "construction contract" as defined by California Civil Code Section 2783, as may be amended from time to time, Consultant's duty to indemnify under this provision shall not apply when to do so would be prohibited by California Civil Code Section 2782, as may be amended from time to time.

Notwithstanding the foregoing, to the extent that the Services include design professional services subject to California Civil Code Section 2782.8, as may be amended from time to time, Consultant's duty to indemnify shall only be to the maximum extent permitted by California Civil Code Section 2782.8.

24. **Insurance.** Consultant shall comply with the "Insurance Requirements for Consultants" in Exhibit B, attached hereto and incorporated herein by reference.

City reserves the right to review any and all of the required insurance policies and/or endorsements, but has no obligation to do so. City's failure to demand evidence of full compliance with the insurance requirements set forth in this Agreement or City's failure to identify any insurance deficiency shall not relieve Contractor from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Agreement.

25. **Amendment.** This Agreement may be amended only by a written instrument executed by both Parties.
26. **Litigation.** If litigation ensues which pertains to the subject matter of Consultant's services hereunder, Consultant, upon request from City, agrees to testify therein at a reasonable and customary fee.
27. **Construction.** This Agreement is the product of negotiation and compromise on the part of both Parties and that the Parties agree that, notwithstanding Civil Code section 1654, any uncertainty in the Agreement shall not be construed against the drafter of the Agreement.
28. **Governing Law; Venue.** This Agreement shall be enforced and interpreted under the laws of the State of California and the City of Petaluma. Any action arising from or brought in connection with this Agreement shall be venued in a court of competent jurisdiction in the County of Sonoma, State of California.
29. **Non-Waiver.** The City's failure to enforce any provision of this Agreement or the waiver thereof in a particular instance shall not be construed as a general waiver of any part of such provision. The provision shall remain in full force and effect.
30. **Severability.** If any term or portion of this Agreement is held to be invalid, illegal, or otherwise unenforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.
31. **No Third Party Beneficiaries.** The Parties do not intend to create, and nothing in this Agreement shall be construed to create any benefit or right in any third party.
32. **Mediation.** The Parties agree to make a good faith attempt to resolve any dispute arising out of this Agreement through mediation prior to commencing litigation. The Parties shall mutually agree upon the mediator and shall divide the costs of mediation equally.
33. **Consultant's Books and Records.**
 - A. Consultant shall maintain any and all ledgers, books of accounts, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services, or expenditures and disbursements charged to the City for a minimum period of three (3) years or for any longer period required by law, from the date of final payment to Consultant pursuant to this Agreement.
 - B. Consultant shall maintain all documents and records which demonstrate performance under this Agreement for a minimum period of three (3) years or for any longer period required by law, from the date of termination or completion of this Agreement.
 - C. Any records or documents required to be maintained pursuant to this Agreement shall be made available for inspection or audit, at any time during regular business hours, upon written request by the City Manager, City Attorney, City Finance Director, or a designated representative of these officers. Copies of such documents shall be provided to the City for inspection at Petaluma City Hall when it is practical to do so. Otherwise, unless an alternative is mutually agreed

upon, the records shall be available at Consultant's address indicated for receipt of notices in this Agreement.

D. Where City has reason to believe that such records or documents may be lost or discarded due to dissolution, disbandment or termination of Consultant's business, City may, by written request by any of the above-named officers, require that custody of the records be given to the City and that the records and documents be maintained in Petaluma City Hall. Access to such records and documents shall be granted to any party authorized by Consultant, Consultant's representatives, or Consultant's successor in interest.

34. **Headings.** The headings used in this Agreement are for convenience only and are not intended to affect the interpretation or construction of any provisions herein.

35. **Survival.** All obligations arising prior to the termination or expiration of this Agreement and all provisions of this Agreement allocating liability between City and Consultant shall survive the termination or expiration of this Agreement.

36. **Entire Agreement.** This Agreement, including the exhibits attached hereto and incorporated herein, constitutes the entire agreement between the Parties with respect to the Services, and supersedes all prior agreements or understandings, oral or written, between the Parties in this regard.

IN WITNESS WHEREOF, the parties hereto have executed this document the day, month and year first above written.

CITY OF PETALUMA

CONSULTANT

City Manager

By _____
Name

ATTEST:

Title

City Clerk

Address

APPROVED AS TO FORM:

City State Zip

City Attorney

Taxpayer I.D. Number

Petaluma Business Tax Certificate Number

file name:

ATTACHMENT B
EXHIBIT B
INSURANCE REQUIREMENTS
FOR ALL AGREEMENTS

Contractor's performance of the Services under this Agreement shall not commence until Contractor shall have obtained all insurance required under this paragraph and such insurance shall have been approved by the City Attorney as to form and the Risk Manager as to carrier and sufficiency. All requirements herein provided shall appear either in the body of the insurance policies or as endorsements and shall specifically bind the insurance carrier.

Contractor shall procure and maintain for the duration of the contract all necessary insurance against claims now and in the future for injuries to persons or damages to property which may arise from or in connection with the performance of the Services by the Contractor, the Contractor's agents, representatives, employees and subcontractors.

A. Required Minimum Scope of Insurance

- Coverage shall be at least as broad as:
Insurance Services Office Commercial General Liability coverage:
 - a. Personal injury;
 - b. Contractual liability.
- Insurance Services Office form covering Automobile Liability (any auto), if no company owned autos, non-owned and hired auto applies.
- Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.
- Professional Liability/Errors and Omissions
- Crime/Employee Blanket Fidelity Bond
- Property Insurance against all risks of loss to any tenant improvements or betterments.
- Pollution Liability Insurance
- Garage Liability
- Garagekeepers Insurance
- Technology Professional Liability Errors and Omissions Insurance (IT Consultant)/Cyber Liability
- Abuse or Molestation Liability Coverage

A.1 Required for All Contracts

- Policy Endorsements or Excerpts from the Policy Pursuant to Section D
- Copy of the Declarations and Policy Endorsements Page for the CGL Policy

B. Minimum Limits of Insurance

Consultant shall maintain limits no less than:

- General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate liability is used, either the general aggregate limit shall apply separately to this Agreement or the general aggregate limit shall be twice the required occurrence limit.
- Products/Completed Operations: \$1,000,000 per occurrence/aggregate.
- Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
- Employer's Liability: Bodily Injury by Accident - \$1,000,000 each accident.

Bodily Injury by Disease - \$1,000,000 policy limit.

Bodily Injury by Disease - \$1,000,000 each employee.

- Professional Liability/Errors and Omissions: \$1,000,000 per occurrence or claim. If the policy provides coverage on a claims-made basis, the retroactive date must be shown and must be before the date of the Agreement or the beginning of the contract work.
 - Crime/Employee Blanket Fidelity Bond - \$1,000,000: Contractor, at its own cost and expense, must maintain a Crime/Employee Blanket Fidelity Bond in the amount of \$1,000,000 per employee covering dishonesty, forgery, alteration, theft, disappearance, destruction (inside or outside).
 - All Risk Property Insurance: Full replacement cost.
 - Pollution legal liability with limits no less than \$1,000,000 per occurrence or claim and \$2,000,000 policy aggregate. If the policy provides coverage on a claims-made basis, the retroactive date must be shown and must be before the date of the Agreement or the beginning of the contract work.
 - Garage Liability: \$1,000,000 per occurrence.
 - Garagekeepers Insurance: \$1,000,000 per occurrence.
 - Technology Professional Liability Errors and Omissions Insurance appropriate to the Consultant's profession and work hereunder, with limits not less than \$1,000,000 per occurrence. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by the Vendor in this agreement and shall include, but not be limited to, claims involving infringement of intellectual property, copyright, trademark, invasion of privacy violations, information theft, release of private information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties as well as credit monitoring expenses with limits sufficient to respond to these obligations.
1. The Policy shall include, or be endorsed to include, **property damage liability coverage** for damage to, alteration of, loss of, or destruction of electronic data and/or information "property" of the City in the care, custody, or control of the Consultant. If not covered under the Consultant's liability policy, such "property" coverage of the City may be endorsed onto the Consultant's Cyber Liability as covered property as follows:
 2. **Cyber Liability coverage** in an amount sufficient to cover the full replacement value of damage to, alteration of, loss of, or destruction of electronic data and/or information "property" of the City that will be in the care, custody, or control of the Consultant.
 3. The Insurance obligations under this agreement shall be the greater of 1) all the Insurance coverage and limits carried by or available to the Consultant; or 2) the minimum Insurance requirements shown in this Agreement. Any insurance proceeds in excess of the specified limits and coverage required, which are applicable to a given loss, shall be available to the City. No representation is made that the minimum Insurance requirements of this Agreement are sufficient to cover the indemnity or other obligations of the Consultant under this agreement.
- Abuse or Molestation Liability Coverage: \$1,000,000 per occurrence; \$2,000,000 aggregate.

C. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its officers, officials, employees, and volunteers; or the Consultant shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses. Policies containing any self-insured retention (SIR) provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured (Contractor) or the City.

City reserves the right to review any and all of the required insurance policies, declaration pages, and/or endorsements, but has no obligation to do so. City's failure to demand evidence of full compliance with the insurance requirements set forth in this Agreement or City's failure to identify any insurance deficiency shall not relieve Contractor from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Agreement.

D. Other Insurance Provisions

The required general liability and automobile policies are to contain, or be endorsed to contain the following provisions:

1. **Additional Insured:** The City, its officers, officials, employees, agents and volunteers are to be covered as Additional Insureds as respects: liability arising out of activities performed by or on behalf of the Consultant; products and completed operations of the Consultant; premises owned, occupied or used by the Consultant; or automobiles owned, leased, hired or borrowed by the Consultant. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officers, officials, employees, agents or volunteers.
2. **Primary and Non-Contributory:** For any claims related to this project, the Consultant's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees, agents and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, agents or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the City, its officers, officials, employees, agents or volunteers.
4. The Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought except, with respect to the limits of the insurer's liability.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City.
6. **Waiver of Subrogation:** Consultant agrees to waive subrogation rights for commercial general liability, automobile liability and worker's compensation against City regardless of the applicability of any insurance proceeds, and to require all contractors, subcontractors or others involved in any way with the Services to do likewise.
7. It shall be a requirement under this Agreement that any available insurance proceeds broader than or in excess of the specified minimum insurance coverage requirement and/or limits shall be available to the additional insured. Furthermore, the requirement for coverage and limits shall be (1) the minimum coverage and limits specified in this

Agreement, or (2) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named insured; whichever is greater.

8. The limits of insurance required in this Agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of the City of Petaluma before the City of Petaluma's own insurance or self-insurance shall be called upon to protect it as a named insured.

E. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII.

F. Verification of Coverage

NOTE: The City of Petaluma is now using an online insurance program, PINS Advantage. Once you have been awarded a contract with the City of Petaluma, you will receive an e-mail from PINS Advantage/City of Petaluma requesting that you forward the e-mail to your insurance agent(s). Consultant shall furnish the City with Certificate of Insurance along with Declarations and Endorsements effecting coverage required by this clause. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. All endorsements are to be received and approved by the City before the Services commence.

ATTACHMENT C

PREVAILING WAGE EXHIBIT C

HOURS OF WORK:

- A. In accordance with California Labor Code Section 1810, eight (8) hours of labor in performance of the Services shall constitute a legal day's work under this Agreement.
- B. In accordance with California Labor Code Section 1811, the time of service of any worker employed in performance of the Services is limited to eight hours during any one calendar day, and forty hours during any one calendar week, except in accordance with California Labor Code Section 1815; which provides that work in excess of eight hours during any one calendar day and forty hours during any one calendar week is permitted upon compensation for all hours worked in excess of eight hours during any one calendar day and forty hours during any one calendar week at not less than one-and-one-half times the basic rate of pay.
- C. The Consultant and its subconsultants shall forfeit as a penalty to the City \$25.00 for each worker employed in the performance of the Services for each calendar day during which the worker is required or permitted to work more than eight (8) hours in any one calendar day, or more than forty (40) hours in any one calendar week, in violation of the provisions of California Labor Code Section 1810 and following.

WAGES:

- A. In accordance with California Labor Code Section 1773.2, the City has determined the general prevailing wages in the locality in which the Services are to be performed for each craft or type of work needed to be as published by the State of California Department of Industrial Relations, Division of Labor Statistics and Research, a copy of which is on file with the City and shall be made available on request. The Consultant and subconsultants engaged in the performance of the Services shall pay no less than these rates to all persons engaged in performance of the Services.
- B. In accordance with Labor Code Section 1775, the Consultant and any subconsultants engaged in performance of the Services shall comply Labor Code Section 1775 which establishes a penalty of up to \$200.00 per day for each worker engaged in the performance of the Services that the Consultant or any subconsultant pays less than the specified prevailing wage. The amount of such penalty shall be determined by the Labor Commissioner and shall be based on consideration of the mistake, inadvertence, or neglect of the Consultant or subconsultant in failing to pay the correct rate of prevailing wages, or the previous record of the Consultant or subconsultant in meeting applicable prevailing wage obligations, or the willful failure by the Consultant or subconsultant to pay the correct rates of prevailing wages. A mistake, inadvertence, or neglect in failing to pay the correct rate of prevailing wages is not excusable if the Consultant or subconsultant had knowledge of their obligations under the California Labor Code. The Consultant or subconsultant shall pay the difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing wage rate. If a subconsultant worker engaged in performance of the

Services is not paid the general prevailing per diem wages by the subconsultant, the Consultant is not liable for any penalties therefore unless the Consultant had knowledge of that failure or unless the Consultant fails to comply with all of the following requirements:

1. The Agreement executed between the Consultant and the subconsultant for the performance of part of the Services shall include a copy of the provisions of California Labor Code Sections 1771, 1775, 1776, 1777.5, 1813, and 1815.
2. The Consultant shall monitor payment of the specified general prevailing rate of per diem wages by the subconsultant by periodic review of the subconsultant's certified payroll records.
3. Upon becoming aware of a subconsultant's failure to pay the specified prevailing rate of wages, the Consultant shall diligently take corrective action to halt or rectify the failure, including, but not limited to, retaining sufficient funds due the subconsultant for performance of the Services.
4. Prior to making final payment to the subconsultant, the Consultant shall obtain an affidavit signed under penalty of perjury from the subconsultant that the subconsultant has paid the specified general prevailing rate of per diem wages employees engaged in the performance of the Services and any amounts due pursuant to California Labor Code Section 1813.

C. In accordance with California Labor Code Section 1776, the Consultant and each subconsultant engaged in performance of the Services, shall keep accurate payroll records showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed in performance of the Services. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:

1. The information contained in the payroll record is true and correct.
2. The employer has complied with the requirements of Sections 1771, 1811, and 1815 for any Services performed by the employer's employees on the public works project.

The payroll records required pursuant to California Labor Code Section 1776 shall be certified and shall be available for inspection by the Owner and its authorized representatives, the Division of Labor Standards Enforcement, the Division of Apprenticeship Standards of the Department of Industrial Relations and shall otherwise be available for inspection in accordance with California Labor Code Section 1776. In addition, Consultant and sub-consultant shall be required to be registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. Consultant and any sub-consultant shall submit certified payroll records to the Department of Industrial Relations Labor Commissioner online:

<https://efiling.dir.ca.gov/eCPR/pages/eCPROnlineForm.jsp>

Consultant is responsible for ensuring compliance with this section.

D. In accordance with California Labor Code Section 1777.5, the Consultant, on behalf of the Consultant and any subconsultants engaged in performance of the Services, shall be responsible

for ensuring compliance with California Labor Code Section 1777.5 governing employment and payment of apprentices on public works contracts.

- E. In case it becomes necessary for the Consultant or any subconsultant engaged in performance of the Services to employ on the Services any person in a trade or occupation (except executive, supervisory, administrative, clerical, or other non-manual workers as such) for which no minimum wage rate has been determined by the Director of the Department of Industrial Relations, the Consultant shall pay the minimum rate of wages specified therein for the classification which most nearly corresponds to Services to be performed by that person. The minimum rate thus furnished shall be applicable as a minimum for such trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

ATTACHMENT D

EXHIBIT D

ACKNOWLEDGEMENT AND CERTIFICATION PURSUANT TO CITY OF PETALUMA LIVING WAGE ORDINANCE PETALUMA MUNICIPAL CODE CHAPTER 8.36

The City of Petaluma Living Wage Ordinance (“Ordinance”), Petaluma Municipal Code Chapter 8.36, applies to certain service contracts, leases, franchises and other agreements or funding mechanisms providing financial assistance (referred to hereafter as an “Agreement”) between the City of Petaluma (“City”) and/or the Petaluma Community Development Commission (“PCDC”) and contractors, lessees, franchisees, and/or recipients of City and/or PCDC funding or financial benefits (“covered entities”).

Pursuant to Petaluma Municipal Code Section 8.36.120, as part of any bid, application or proposal for any Agreement subject to the Ordinance, the covered entity shall:

- Acknowledge that the covered entity is aware of the Ordinance and intends to comply with its provisions.
- Complete the Report of Charges, Complaints, Citations and/or Findings contained in this Acknowledgement and Certification by providing information, including the date, subject matter and manner of resolution, if any, of all wage, hour, collective bargaining, workplace safety, environmental or consumer protection charges, complaints, citations, and/or findings of violation of law or regulation by any regulatory agency or court including but not limited to the California Department of Fair Employment and Housing, Division of Occupational Safety and Health (OSHA), California Department of Industrial Relations (Labor Commissioner), Environmental Protection Agency and/or National Labor Relations Board, which have been filed or presented to the covered entity within the ten years immediately prior to the bid, proposal, submission or request.

Pursuant to Petaluma Municipal Code Section 8.36.120, before the beginning of the term of any covered Agreement, or prior to the execution of said Agreement by the City or the PCDC, each covered entity shall certify that its employees are paid a living wage that is consistent with Petaluma Municipal Code Chapter 8.36.

By executing this Acknowledgement and Certification, the covered entity (i) acknowledges that it is aware of the Ordinance and intends to comply with its provisions, (ii) attests to the accuracy and completeness of information provided in the Report of Charges, Complaints, Citations and/or Findings contained herein, (iii) certifies that it pays its covered employees a Living Wage as defined in Petaluma Municipal Code Chapter 8.36 and (iv) attests that the person executing this Acknowledgement and Certification is authorized to bind the covered entity as to the matters covered in this Acknowledgment and Certification.

SO ACKNOWLEDGED and CERTIFIED:

Project or Contract I.D: _____

_____ Date: _____
(Print Name of Covered Entity/Business Capacity)

By _____
(Print Name)

/s/ _____
(Signature)

Its _____
(Title /Capacity of Authorized Signer)

**REPORT OF CHARGES, COMPLAINTS, CITATIONS AND/OR FINDINGS
PURSUANT TO PETALUMA MUNICIPAL CODE SECTION 8.36.120**

FOR EACH WAGE, HOUR, COLLECTIVE BARGAINING, WORKPLACE SAFETY, ENVIRONMENTAL OR CONSUMER PROTECTION CHARGE, COMPLAINT, CITATION, AND/OR FINDING OF VIOLATION OF LAW OR REGULATION BY ANY REGULATORY AGENCY OR COURT, INCLUDING BUT NOT LIMITED TO THE CALIFORNIA DEPARTMENT OF FAIR EMPLOYMENT AND HOUSING, DIVISION OF OCCUPATIONAL SAFETY AND HEALTH (OSHA), CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS (LABOR COMMISSIONER), ENVIRONMENTAL PROTECTION AGENCY AND/OR NATIONAL LABOR RELATIONS BOARD, WHICH:

- AFFECTS YOU AS A PROSPECTIVE CONTRACTOR, SUBCONTRACTOR, LESSEE, FRANCHISEE AND/OR PARTY TO ANY CITY OF PETALUMA AND/OR PETALUMA COMMUNITY DEVELOPMENT COMMISSION-FUNDED AGREEMENT OR BENEFIT SUBJECT TO PETALUMA MUNICIPAL CODE CHAPTER 8.36 (LIVING WAGE ORDINANCE), AND
- HAS BEEN FILED OR PRESENTED TO YOU WITHIN THE TEN YEARS IMMEDIATELY PRIOR TO THE BID, PROPOSAL, SUBMISSION OR REQUEST FOR WHICH THIS ACKNOWLEDGEMENT AND CERTIFICATION IS MADE.

PLEASE PROVIDE THE DATE, THE REGULATORY AGENCY OR COURT MAKING THE CHARGE COMPLAINT, CITATION OR FINDING, THE SUBJECT MATTER AND THE MANNER OF RESOLUTION, IF ANY, FOR EACH SUCH CHARGE COMPLAINT, CITATION OR FINDING.

IF NONE, PLEASE STATE "NONE": _____

ATTACH ADDITIONAL PAGES IF NEEDED.

Date: _____

Regulatory Agency or Court: _____

Subject Matter: _____

Resolution, if any: _____

Expected resolution, if known: _____

EXHIBIT 10-I NOTICE TO PROPOSERS DBE INFORMATION

(Federally funded projects only)

The Agency has established a DBE goal for this Contract of _____

1. TERMS AS USED IN THIS DOCUMENT

- The term “Disadvantaged Business Enterprise” or “DBE” means a for-profit small business concern owned and controlled by a socially and economically disadvantaged person(s) as defined in Title 49, Code of Federal Regulations (CFR), Part 26.5.
- The term “Agreement” also means “Contract.”
- Agency also means the local entity entering into this contract with the Contractor or Consultant.
- The term “Small Business” or “SB” is as defined in 49 CFR 26.65.

2. AUTHORITY AND RESPONSIBILITY

- A. DBEs and other small businesses are strongly encouraged to participate in the performance of Contracts financed in whole or in part with federal funds (See 49 CFR 26, “Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs”). The Consultant must ensure that DBEs and other small businesses have the opportunity to participate in the performance of the work that is the subject of this solicitation and should take all necessary and reasonable steps for this assurance. The proposer must not discriminate on the basis of race, color, national origin, or sex in the award and performance of subcontracts.
- B. Proposers are encouraged to use services offered by financial institutions owned and controlled by DBEs.

3. SUBMISSION OF DBE INFORMATION

If there is a DBE goal on the contract, Exhibit 10-O1 *Consultant Proposal DBE Commitment* must be included in the Proposal. In order for a proposer to be considered responsible and responsive, the proposer must make good faith efforts to meet the goal established for the contract. If the goal is not met, the proposer must document adequate good faith efforts. All DBE participation will be counted towards [meeting](#) the contract goal; therefore, all DBE participation shall be collected and reported.

Exhibit 10-O2 *Consultant Contract DBE Information* must be included in [best qualified consultant’s executed consultant contract](#). Even if no DBE participation will be reported, the successful proposer must execute and return the form.

4. DBE PARTICIPATION GENERAL INFORMATION

It is the proposer’s responsibility to be fully informed regarding the requirements of 49 CFR, Part 26, and the Department’s DBE program developed pursuant to the regulations. Particular attention is directed to the following:

- A. A DBE must be a small business firm defined pursuant to 13 CFR 121 and be certified through the California Unified Certification Program (CUCP).
- B. A certified DBE may participate as a prime consultant, subconsultant, joint venture partner, as a vendor of material or supplies, or as a trucking company.
- C. A DBE proposer not proposing as a joint venture with a non-DBE, will be required to document one or a combination of the following:
 - 1. The proposer is a DBE and will meet the goal by performing work with its own forces.
 - 2. The proposer will meet the goal through work performed by DBE subconsultants, suppliers or trucking companies.
 - 3. The proposer, prior to proposing, made adequate good faith efforts to meet the goal.

- D. A DBE joint venture partner must be responsible for specific contract items of work or clearly defined portions thereof. Responsibility means actually performing, managing, and supervising the work with its own forces. The DBE joint venture partner must share in the capital contribution, control, management, risks and profits of the joint venture commensurate with its ownership interest.
- E. A DBE must perform a commercially useful function pursuant to 49 CFR 26.55, that is, a DBE firm must be responsible for the execution of a distinct element of the work and must carry out its responsibility by actually performing, managing and supervising the work.
- F. The proposer shall list only one subconsultant for each portion of work as defined in their proposal and all DBE subconsultants should be listed in the bid/cost proposal list of subconsultants.
- G. A prime consultant who is a certified DBE is eligible to claim all of the work in the Contract toward the DBE participation except that portion of the work to be performed by non-DBE subconsultants.

5. RESOURCES

- A. The CUCP database includes the certified DBEs from all certifying agencies participating in the CUCP. If you believe a firm is certified that cannot be located on the database, please contact the Caltrans Office of Certification toll free number 1-866-810-6346 for assistance.
- B. Access the CUCP database from the Department of Transportation, Office of Civil Rights [website](#)
 - 1. Click on the link titled Disadvantaged Business Enterprise;
 - 2. Click on Search for a DBE Firm link;
 - 3. Click on [Access to the DBE Query Form](#) located on the first line in the center of the page.

Searches can be performed by one or more criteria. Follow instructions on the screen.

6. MATERIALS OR SUPPLIES PURCHASED FROM DBES COUNT TOWARDS THE DBE GOAL UNDER THE FOLLOWING CONDITIONS:

- A. If the materials or supplies are obtained from a DBE manufacturer, count 100 percent of the cost of the materials or supplies. A DBE manufacturer is a firm that operates or maintains a factory, or establishment that produces on the premises the materials, supplies, articles, or equipment required under the Contract and of the general character described by the specifications.
- B. If the materials or supplies purchased from a DBE regular dealer, count 60 percent of the cost of the materials or supplies. A DBE regular dealer is a firm that owns, operates or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the Contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. To be a DBE regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question. A person may be a DBE regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business provided in this section.
- C. If the person both owns and operates distribution equipment for the products, any supplementing of regular dealers' own distribution equipment shall be, by a long-term lease agreement and not an ad hoc or Agreement-by-Agreement basis. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not DBE regular dealers within the meaning of this section.
- D. Materials or supplies purchased from a DBE, which is neither a manufacturer nor a regular dealer, will be limited to the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on the job site, provided the fees are reasonable and not excessive as compared with fees charged for similar services.

EXHIBIT 10-01 CONSULTANT PROPOSAL DBE COMMITMENT

1. Local Agency: _____ 2. Contract DBE Goal: _____
 3. Project Description: _____
 4. Project Location: _____
 5. Consultant's Name: _____ 6. Prime Certified DBE:

7. Description of Work, Service, or Materials Supplied	8. DBE Certification Number	9. DBE Contact Information	10. DBE %
Local Agency to Complete this Section		11. TOTAL CLAIMED DBE PARTICIPATION	%
17. Local Agency Contract Number: _____ 18. Federal-Aid Project Number: _____ 19. Proposed Contract Execution Date: _____ 20. Consultant's Ranking after Evaluation: _____	IMPORTANT: Identify all DBE firms being claimed for credit, regardless of tier. Written confirmation of each listed DBE is required. _____ 12. Preparer's Signature 13. Date _____ 14. Preparer's Name 15. Phone _____ 16. Preparer's Title		
Local Agency certifies that all DBE certifications are valid and information on this form is complete and accurate. _____ _____ _____			

DISTRIBUTION: Original – Included with consultant's proposal to local agency.

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 – CONSULTANT PROPOSAL DBE COMMITMENTCONSULTANT 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. Consultant's Name** - Enter the consultant's firm name.
- 6. Prime Certified DBE** - Check box if prime contractor is a certified DBE.
- 7. 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 consultant'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.
- 8. DBE Certification Number** - Enter the DBE's Certification Identification Number. All DBEs must be certified on the date bids are opened.
- 9. DBE Contact Information** - Enter the name, address, and phone number of all DBE subcontracted consultants. Also, enter the prime consultant's name and phone number, if the prime is a DBE.
- 10. DBE %** - Percent participation of work to be performed or service provided by a DBE. Include the prime consultant if the prime is a DBE. See LAPM Chapter 9 for how to count full/partial participation.
- 11. Total Claimed DBE Participation %** - Enter the total DBE participation claimed. 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).
- 12. Preparer's Signature** - The person completing the DBE commitment form on behalf of the consultant's firm must sign their name.
- 13. Date** - Enter the date the DBE commitment form is signed by the consultant's preparer.
- 14. Preparer's Name** - Enter the name of the person preparing and signing the consultant's DBE commitment form.
- 15. Phone** - Enter the area code and phone number of the person signing the consultant's DBE commitment form.
- 16. Preparer's Title** - Enter the position/title of the person signing the consultant's DBE commitment form.

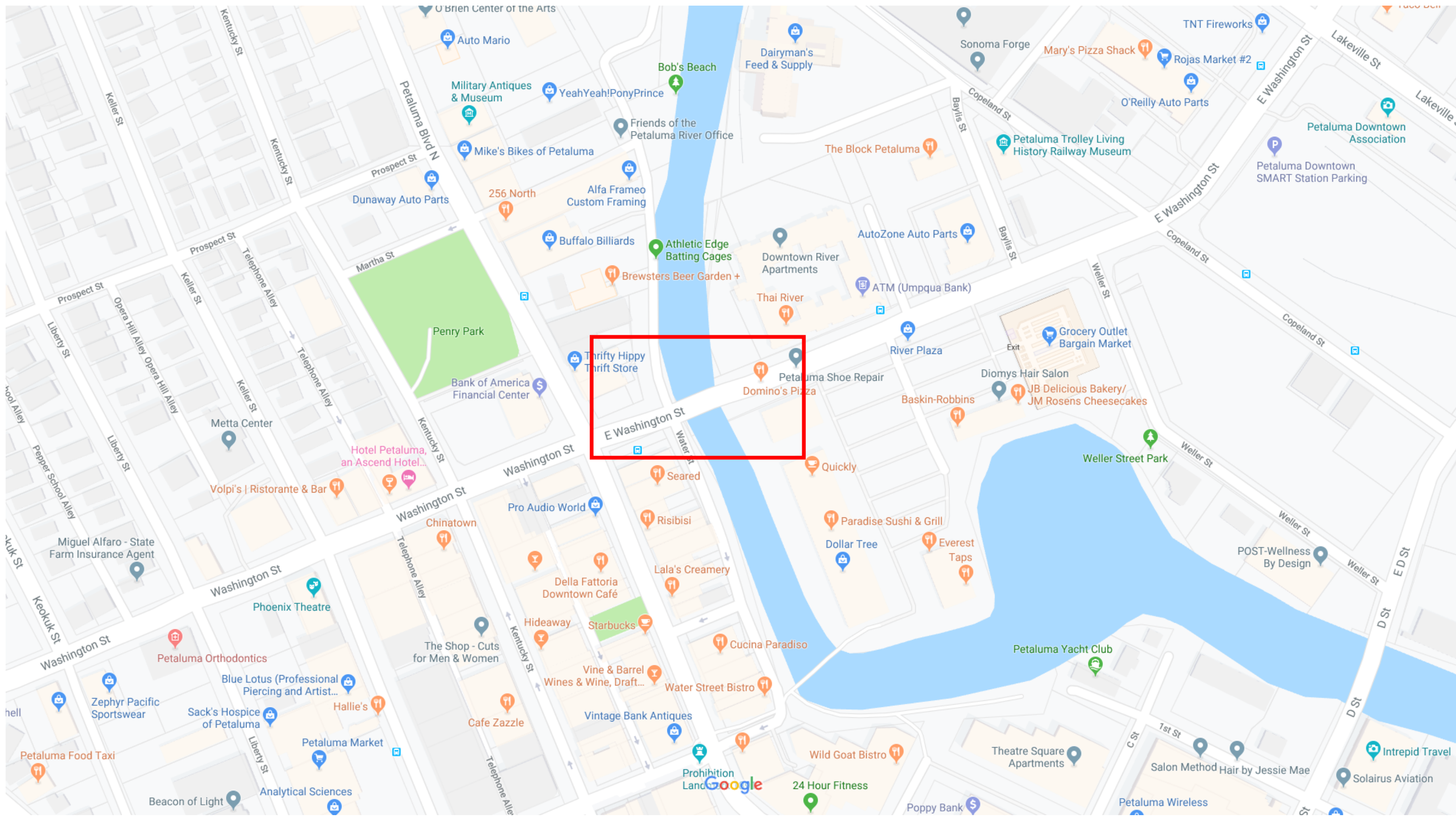
LOCAL AGENCY SECTION

- 17. Local Agency Contract Number** - Enter the Local Agency contract number or identifier.
- 18. Federal-Aid Project Number** - Enter the Federal-Aid Project Number.
- 19. Proposed Contract Execution Date** - Enter the proposed contract execution date.
- 20. Consultant's Ranking after Evaluation** - Enter consultant's ranking after all submittals/consultants are evaluated. Use this as a quick comparison for evaluating most qualified consultant.
- 21. 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 Consultant Section of this form is complete and accurate.
- 22. Date** - Enter the date the DBE commitment form is signed by the Local Agency Representative.
- 23. Local Agency Representative's Name** - Enter the name of the Local Agency Representative certifying the consultant's DBE commitment form.
- 24. Phone** - Enter the area code and phone number of the person signing the consultant's DBE commitment form.
- 25. Local Agency Representative Title** - Enter the position/title of the Local Agency Representative certifying the consultant's DBE commitment form.



Petaluma

Washington Street Bridge Location



865 The Alameda
San Jose, CA 95126-3133
Telephone 408-296-6616
Facsimile 408-296-8114

Draft Seismic Retrofit Strategy Report *for the* Washington Street Bridge at the Petaluma River



Prepared for



City of Petaluma, California

Prepared by

BCA **BIGGS CARDOSA
ASSOCIATES INC**
STRUCTURAL ENGINEERS

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EXECUTIVE SUMMARY

Bridge Analysis

The analysis of the existing bridge was based on Caltrans Seismic Design Criteria v.1.6, using acceleration response spectra per Caltrans 2009 criteria representing a Maximum Credible Earthquake.

Vulnerabilities Identified

- The seismic displacement demands on the piles exceed the capacities at the abutments and the bent.
- The P- Δ effect on the piles due to seismic displacement demands is significant at the abutments and the bent.

Based on the above results, the bridge is vulnerable to collapse during a Maximum Credible Earthquake.

Retrofit Recommendations

Concrete frames with CIDH piles and a concrete pile cap are recommended behind both the existing abutments to strengthen the existing bridge. This reduces the bridge seismic displacement demands and protects the existing bent piles from collapse.

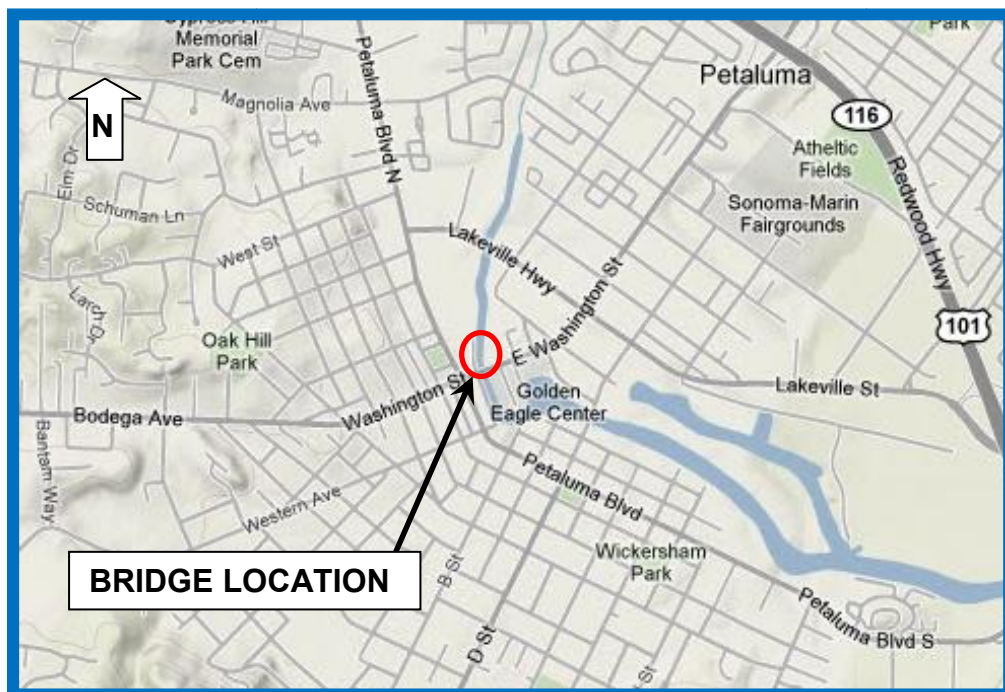
Estimated Construction Costs

An opinion of probable construction cost for the presented seismic retrofit strategy is provided in Appendix D.

I. BRIDGE DESCRIPTION

A. *General Information*

Bridge Number:	20C-0045
Year Designed:	1968
Year Built:	1970
Avg. Daily Traffic:	21,900
Bridge Length:	105 ft
Bridge Width:	89 ft
Sufficiency Rating:	95.9



B. *General Description*

The Washington Street Bridge is a 2-span precast concrete I-girder structure that carries Washington Street over the Petaluma River. The original bridge was removed and replaced by the current bridge in 1970. Portions of the original bridge abutments and wingwalls remain behind the abutments of the current structure. The bridge was constructed in two stages, and has a longitudinal joint underneath the center median. The bridge has two 6-foot wide sidewalks with semi-circular outlooks, 40' westbound and 30' eastbound traveled ways, and a 5' wide raised median. The bridge has a straight alignment and the supports are skewed approximately 4 degrees to the alignment.

The diaphragm abutments are supported on 60 ton steel H piles that vary from 9' to 28' in length, with typical length of approximately 12' at Abutment 1 and 26.5' at Abutment

3 . The bent is supported on 60 ton steel H piles approximately 33' long, with a minimum embedment of 11'. The bent pile extensions are encased in concrete from the mud line to the bent cap. In 2008 the concrete casings on the bent pile extensions were encased in an additional marine protection system consisting of an FRP jacket filled with marine epoxy grout.

The superstructure girders are encased in end diaphragms at the bent and abutments, and lateral loads are transferred to the substructure elements via dowels through the girders and reinforcing in the end diaphragms.

II. DESIGN CRITERIA FOR RETROFIT STRATEGY

A. Acceleration Response Spectra

The recommended acceleration response spectra (ARS) curve per Caltrans 2009 seismic design criteria is included in Appendix F. The curve is governed by Caltrans 2009 ARS Online Probabilistic curve, which estimates spectral acceleration values with a probability of exceedence of 5% in 50 yrs (or 975 yr return period).

Peak Rock Acceleration: 0.6 g
 Fault / Magnitude: Rodgers Creek Fault / 7.1
 Shear Wave Velocity: 330 m/sec

B. Material Properties

	<u>As-Built</u>	<u>Seismic Evaluation</u>	<u>New Material</u>
Piers, Abutments, and Footings:	$f'_c = 3.25$ ksi	$f'_{ce} = 5$ ksi	$f'_c = 3.7$ ksi
Precast Girders:			
Girder No. 13:	$f'_c = 4$ ksi	$f'_{ce} = 5$ ksi	N/A
All Other Girders:	$f'_c = 5.7$ ksi	$f'_{ce} = 5$ ksi	N/A
Bridge Deck:	$f'_c = 3.25$ ksi	$f'_{ce} = 5$ ksi	N/A
Reinforcing Steel:	$f_y = 60$ ksi	$f_{ye} = 68$ ksi	$f_y = 60$ ksi
Structural Steel (H piles):	$f_y = 36$ ksi	$f_{ye} = 54$ ksi	N/A

C. As-Built Foundations

Foundation Type: Driven H-Piles
 Liquefaction Potential: High
 Design Capacity: 60 Tons
 Ult. Compression Capacity: 120 Tons

Additional information regarding the as-built foundations can be found in the geotechnical recommendations included in Appendix F of this report.

D. Liquefaction

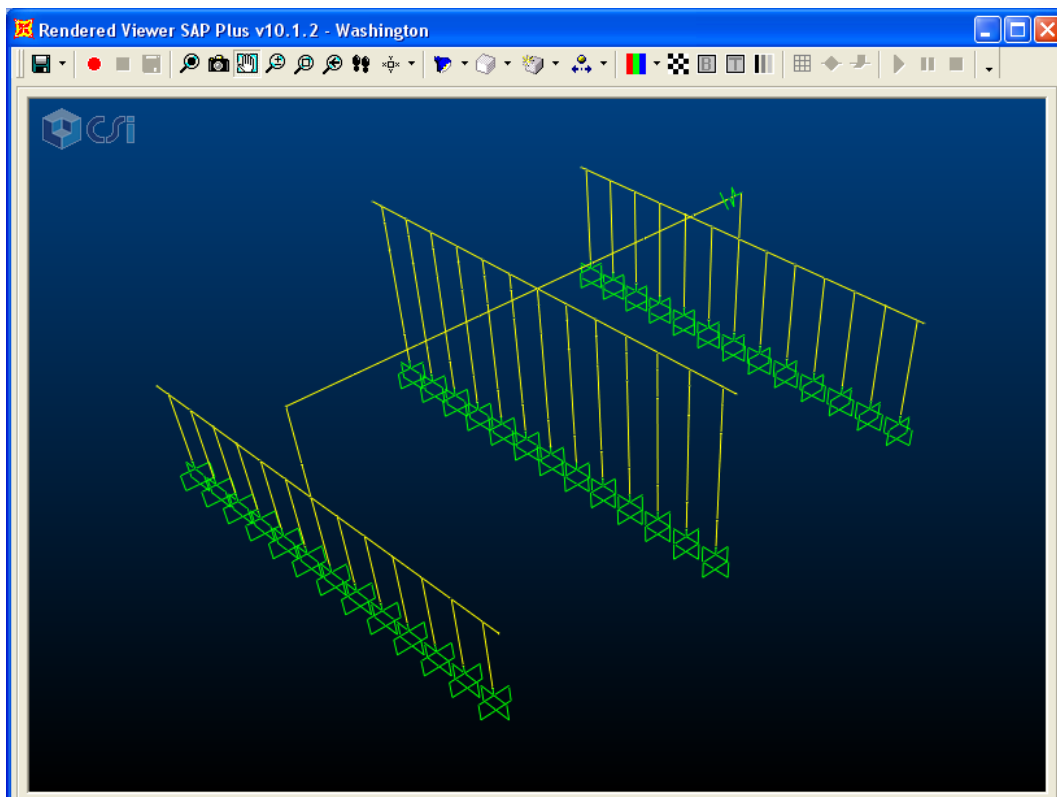
Liquefaction is a phenomenon in which saturated cohesionless soils are subject to a temporary but essentially total loss of shear strength under the reversing, cyclic shear stresses associated with earthquake shaking. Per the Geotechnical Memo, liquefiable soil was encountered at the site. The presence of liquefiable soil was incorporated into the as-built and retrofit analysis.

III. ANALYSIS SUMMARY

A. As-Built Analysis

A life safety criterion was used for the evaluation of the structure. The structure is considered to meet this criterion as long as damage to the structure is limited to avoid collapse under the Maximum Credible Earthquake.

The existing structure was evaluated utilizing a finite element model to perform a response spectrum analysis. Effective section properties were used, assuming that the bent pile extensions will undergo some cracking during the earthquake. Specific structure vulnerabilities and demand to capacity ratios are discussed later in this document.



Rendering of the SAP model.

B. Retrofit Analysis

The structure was then re-evaluated based on structural modifications designed to solve the deficiencies identified in the as-built analysis. The finite element model was modified based on the proposed structural modifications.

IV. BRIDGE VULNERABILITIES

During the evaluation process, it was determined that the structure has several vulnerabilities. These are summarized below:

1. The transverse displacement capacity of the piles is inadequate to accommodate the transverse seismic displacement demands.
2. At Abutment 1, the pile longitudinal displacement capacity is inadequate to meet the longitudinal seismic displacement demands.
3. The P- Δ effects due to transverse seismic loads are significant at the abutments and the bent.
4. The Abutment 1 diaphragm wall is inadequate to resist shear and bending moment at bottom of girder region due to longitudinal passive seismic pressure and lateral spreading loads.

The details of these results are summarized in the as-built demand/capacity tables provided in Appendix A. Based on these results, it is clear that the bridge requires seismic retrofit to meet the no collapse criteria.

V. RETROFIT RECOMMENDATIONS

Due to the deficiencies found in the bent pile extensions, the effects of concrete frames with CIDH (cast in drilled hole) piles and a concrete pile cap placed behind each of the bridge abutments were investigated. It was determined that the placement of these CIDH pile frames behind the abutments, and the proper connection of these frames to the existing bridge abutments, would significantly increase the stiffness of the lateral system and reduce lateral movements, particularly in the transverse direction. Such increase in stiffness would result in lower displacement demands on the existing piles. This retrofit approach would not involve any work in the river, thereby minimizing environmental impacts.

Based on the retrofit analysis, the addition of concrete frames consisting of three 4' diameter CIDH piles and a stiff concrete pile cap connected to each abutment with drill and bond dowels would provide sufficient stiffness to address the structural deficiencies determined in the as-built analysis. The proposed retrofit strategy significantly improves the behavior of the bridge in a design earthquake, reducing transverse displacement demands, and meets the no-collapse criterion. The pile cap would also be used to bolster the Abutment 1 wall in the bottom of girder region, to resist longitudinal passive and lateral spreading forces. A reduced section of the pile cap beam would be extended past the ends of the frame to bolster the remaining length of the abutment wall.

Behind each existing abutment wall, there are abutment and wingwall remnants from the original bridge. The locations of the original abutment remnants were approximated based on the 1970 as-built plans because the as-built plans for the original bridge are not available. In order to construct the CIDH piles and pile caps, portions of the original abutment and wingwall remnants would need to be removed. The exact extents of the removal cannot be precisely determined until the original abutments are located via potholing or direct exposure.

The detailed demand to capacity results for the retrofitted structure are summarized in the tables provided in Appendix B. A preliminary General Plan and basic conceptual details are provided in Appendix C.

VI. RIVER, RAILROAD SPUR, UTILITY, AND TRAFFIC IMPACTS

The primary objective of the seismic retrofit concept was to avoid impacts to the river, and as a result avoiding retrofit construction at the bent. A secondary objective was to minimize impacts to existing utilities and railroad spur, and to the Washington Street traffic.

The recommended seismic retrofit would not involve any work within the river, and would take place behind the existing abutments. These facts, combined with the use of Caltrans Best Management Practices during construction, would prevent any direct construction intrusion into the river or any silt from entering the river. Therefore, the proposed retrofit construction work would not have an impact on the river, and would also reduce the number and extent of environmental studies required for the project.

A currently inactive railroad spur is located several feet behind Abutment 1. The spur is owned by SMART and is expected to be repaired and restored to an active condition at some point in the future. It is expected that the construction of the proposed bridge retrofit would be completed well ahead of the track restoration work. In the final condition, the retrofit frame would be fairly close to the tracks but would not interfere

with them or their function. Train or light rail loading would be considered as needed during final design of the frame. Construction of the proposed frame might require the use of shoring to protect the tracks during excavation and construction of the pile cap beam.

The proposed CIDH pile frames were laid out with two goals in mind: avoiding existing utilities and minimizing utility relocations, and positioning CIDH piles to allow one lane of traffic in each direction to remain open at all times.

Existing Utilities:

- The frames were located to avoid existing utilities and utility re-location as much as possible. There are several utilities carried by the bridge, most of them located underneath the southernmost traffic lane on the bridge, and both frames avoid this area.
- Relocation of the gas line to the east of Abutment 3 will be required in order to provide the necessary clearance for frame construction.
- The existing signal conduit that runs the length of Abutment 1 and other existing utilities that penetrate this abutment will be accommodated with oversized holes in the retrofit pile cap, as needed.
- Further investigation of existing utility status and locations is recommended during final design.
- For cost estimating purposes it was assumed that the utility relocation costs would be covered by the utility's franchise agreement with the City.

Traffic Handling:

- The frames and CIDH piles were positioned to allow at least one lane of traffic in each direction to remain open at all times. The bridge is located in a very busy area of downtown Petaluma that has high traffic demands, particularly during the morning and afternoon commute hours, so allowing traffic to continue passing through the site during construction is critical.
- Preliminary traffic handling plans were designed to keep a minimum of one lane open in each direction throughout construction. These plans were reviewed with the City to verify that the proposed staging generally meets their traffic requirements, and are provided in Appendix E.
- Further investigation of the stage construction requirements and details is recommended during the final design phase.

VII. ESTIMATED CONSTRUCTION COST

The construction cost for the structural modifications to the bridge is estimated to be \$952,000. Assuming that the retrofit construction will take a maximum of 6 months, it is estimated that the traffic handling and roadway work that will be required for the retrofit construction would cost approximately \$125,000. Detailed structure cost estimate information is provided in Appendix D. For comparison purposes, it is expected that the construction costs for the bridge replacement would be approximately \$3 million assuming no change in bridge length and width.

It is important to note that the criterion for the seismic retrofit is that of no collapse, rather than no damage. Thus, even with the retrofit improvements in place it is likely that there will be damage to the bridge foundations and possibly other bridge elements after a major seismic event. In this case major repair or even bridge replacement may be required.

APPENDIX A: AS-BUILT DEMAND/CAPACITY TABLES

As-Built Analysis Summary**Pile Displacement Demand Capacity****Longitudinal Direction**

Location	Δ_D (in)	Δ_C (in)	D/C	OK/NG
Abut 1	3.2	1.7	1.88	NG
Bent 2	1.0	9.7	0.10	OK
Abut 3	1.4	6.0	0.23	OK

Transverse Direction

Location	Δ_D (in)	Δ_C (in)	D/C	OK/NG
Abut 1	22.5	1.2	18.75	NG
Bent 2	23.3	6.9	3.38	NG
Abut 3	24.1	6.0	4.02	NG

Pile Shear Demand Capacity**Bent H Pile Only - Longitudinal**

V_o (kips)	ϕV_n (kips)	D/C	OK/NG
113.4	165.6	0.68	OK

Bent H Pile Only - Transverse

f_{uv} (ksi)	$0.6\phi F_n$ (ksi)	D/C	OK/NG
5.7	32.4	0.18	OK

Bent Concrete Only

V_o (kips)	ϕV_n (kips)	D/C	OK/NG
27.0	79.0	0.34	OK

Abut H Pile Only - Longitudinal

V_o (kips)	ϕV_n (kips)	D/C	OK/NG
130.0	165.6	0.79	OK

Abut H Pile Only - Transverse

f_{uv} (ksi)	$0.6\phi F_n$ (ksi)	D/C	OK/NG
6.8	32.4	0.21	OK

Pile Axial Load Demand Capacity (Extreme Limit State)**Longitudinal Direction**

Location	P_D (kips)	P_C (kips)	D/C	OK/NG
Abut 1	117.0	240.0	0.49	OK
Bent 2	112.0	240.0	0.47	OK
Abut 3	67.0	240.0	0.28	OK

Transverse Direction

Location	P_D (kips)	P_C (kips)	D/C	OK/NG
Abut 1	105.0	240.0	0.44	OK
Bent 2	80.0	240.0	0.33	OK
Abut 3	57.0	240.0	0.24	OK

As-Built Analysis Summary**PA Check****Longitudinal Direction**

Location	$P_{dl}\Delta_r$ (k-in)	M_p^{col} (k-in)	$P_{dl}\Delta_r/M_p^{col}$	OK/NG (OK if $P_{dl}\Delta_r/M_p^{col}<0.2$)
Abut 1	375.0	3996.0	0.09	OK
Bent 2	112.0	3996.0	0.03	OK
Abut 3	94.0	3996.0	0.02	OK

Transverse Direction

Location	$P_{dl}\Delta_r$ (k-in)	M_p^{col} (k-in)	$P_{dl}\Delta_r/M_p^{col}$	OK/NG (OK if $P_{dl}\Delta_r/M_p^{col}<0.2$)
Abut 1	2363.0	1739.0	1.36	NG
Bent 2	2102.0	1739.0	1.21	NG
Abut 3	1374.0	1739.0	0.79	OK

Bent Column/Cap Connection

V_o (kips)	ϕV_n (kips)	D/C	OK/NG
27.0	79.0	0.34	OK

Girder Connection (Longitudinal)

Location	Pullout Force (k)	Resisting Force (k)	D/C	OK/NG
Abut	165.6	209.0	0.79	OK
Bent	165.6	223.0	0.74	OK

Abutment Diaphragm Behind Girder

Breaking Force (k)	Resisting Force (k)	D/C	OK/NG
3134.0	3231.0	0.97	OK

APPENDIX B: RETROFIT DEMAND/CAPACITY TABLES

Retrofit Analysis Summary

Pile Diplacement Demand Capacity

Longitudinal Direction

Location	Δ_D (in)	Δ_C (in)	D/C	OK/NG
Abut 1 New CIDH	1.3	23.5	0.06	OK
Abut 1 Exist Pile ¹	4.1	1.7	2.41	NG
Bent 2 Exist Pile	1.3	9.7	0.13	OK
Abut 3 Exist Pile	1.7	6.0	0.28	OK
Abut 3 New CIDH	1.3	36.7	0.04	OK

Transverse Direction

Location	Δ_D (in)	Δ_V (H Pile) or Δ_C (CIDH)(in)	D/C	OK/NG
Abut 1 New CIDH	2.5	23.5	0.11	OK
Abut 1 Exist Pile ¹	2.5	1.2	2.08	NG
Bent 2 Exist Pile	3.8	6.9	0.55	OK
Abut 3 Exist Pile	5.2	6	0.87	OK
Abut 3 New CIDH	5.1	36.7	0.14	OK

Pile Shear Demand Capacity

Location	V_o (kips)	ϕV_n (kips)	D/C	OK/NG
Abut 1 New CIDH	418	510	0.82	OK
Abut 3 New CIDH	424	510	0.83	OK

Pile Axial Load Demand Capacity (Extreme Limit State)

Transverse Direction

Location	P_{Demand} (kips)	$P_{Capacity}$ (kips)	D/C	OK/NG
Abut 1 New CIDH	216	700	0.31	OK
Abut 1 Exist Pile	174	240	0.73	OK
Bent 2 Exist Pile	109	240	0.45	OK
Abut 3 Exist Pile	50	240	0.21	OK
Abut 3 New CIDH	239	700	0.34	OK

PA Check

Longitudinal Direction

Location	$P_{dl} \Delta_r$ (k-in)	M_p^{col} (k-in)	$P_{dl} \Delta_r / M_p^{col}$	OK/NG (OK if $P_{dl} \Delta_r / M_p^{col} < 0.2$)
Abut 1 New CIDH	Not Controlling	Not Controlling	Not Controlling	Not Controlling
Abut 1 Exist Pile	328	3996	0.08	OK
Bent 2 Exist Pile	118	3996	0.03	OK
Abut 3 Exist Pile	82	3996	0.02	OK
Abut 3 New CIDH	Not Control	Not Control	Not Control	Not Control

Transverse Direction

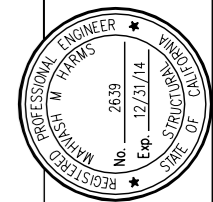
Location	$P_{dl} \Delta_r$ (k-in)	M_p^{col} (k-in)	$P_{dl} \Delta_r / M_p^{col}$	OK/NG (OK if $P_{dl} \Delta_r / M_p^{col} < 0.2$)
Abut 1 New CIDH	460	22450	0.02	OK
Abut 1 Exist Pile	200	1739	0.12	OK
Bent 2 Exist Pile	346	1739	0.199	OK
Abut 3 Exist Pile	250	1739	0.14	OK
Abut 3 New CIDH	938	22450	0.04	OK

Note:

1) Abutment 1 piles are stiff and yield at a low displacement, and they are still yielding under seismic loading of the retrofitted structure. However, their displacement is relatively small and it is assumed that they would still be able to provide vertical support to the abutment. Note also that the indicated longitudinal displacement includes lateral spreading loads on the bottom 6' of the abutment wall.

2) Because Bent 2 longitudinal displacements are reduced to 1.3" and longitudinal rotations are reduced to 1-degree, retrofit of the bent cap and pile extensions are not required.

APPENDIX C: PRELIMINARY GENERAL PLAN & CONCEPTUAL DETAILS



DESIGNED BY: SEM	DRAWN BY: TEH	CHECKED BY: DBD	SCALE: AS SHOWN
BY: MMH	DATE: 6/6/14	DESCRIPTION: SEISMIC RETROFIT STRATEGY	

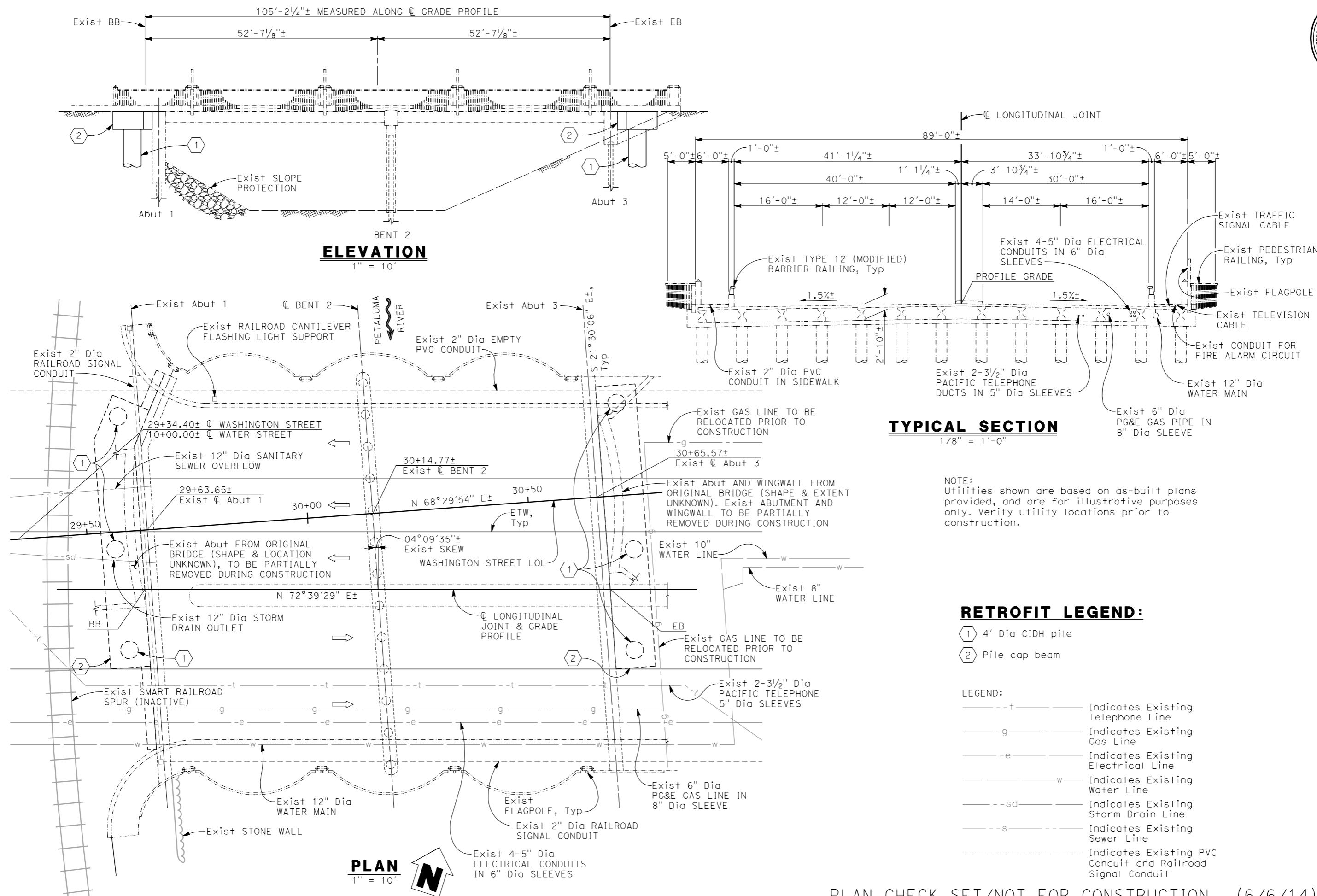


BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
The Alamogordo Building
408 - 296 - 5515

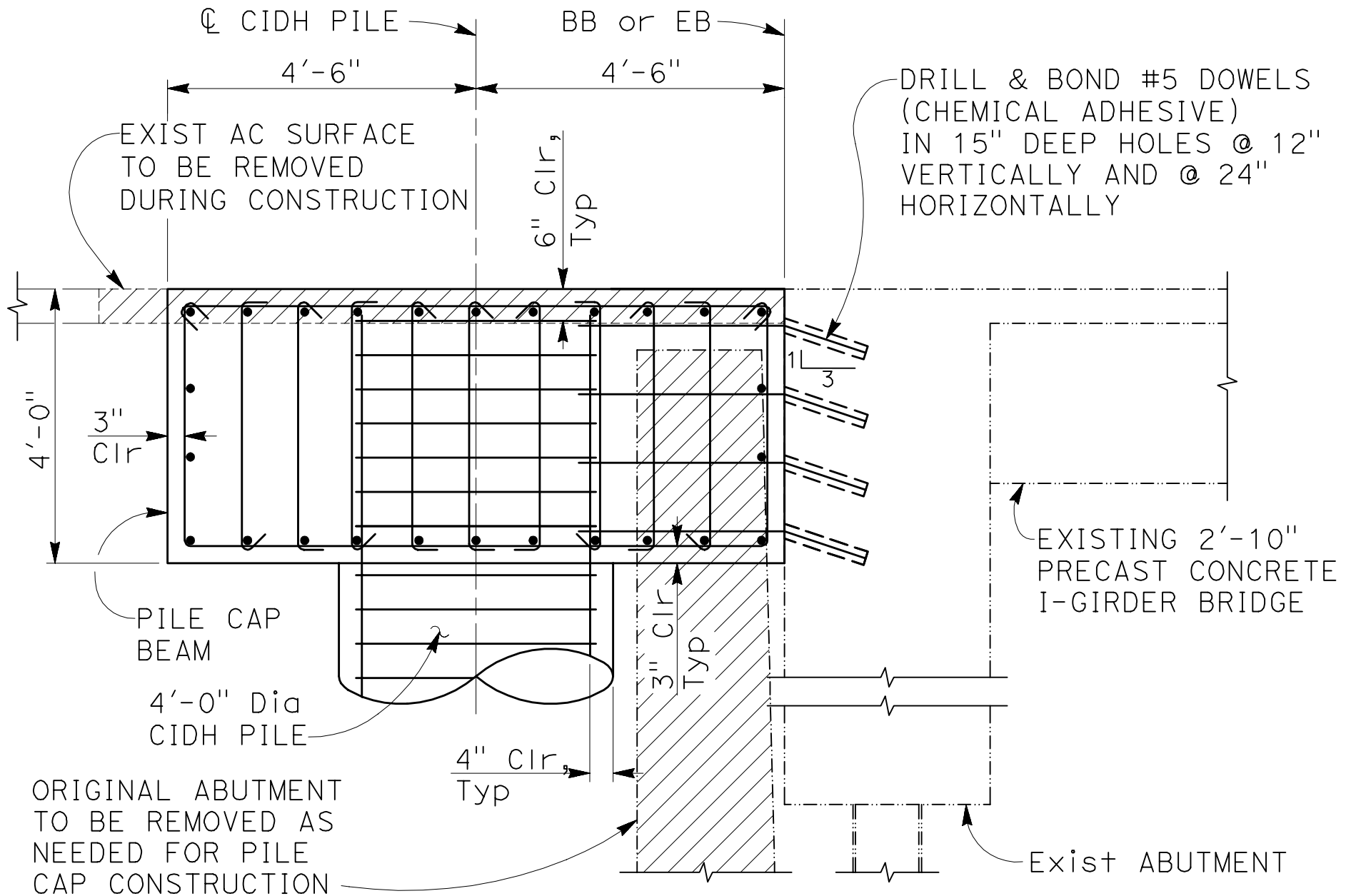
GENERAL PLAN
CITY OF PETALUMA
WASHINGTON STREET BRIDGE
PETALUMA CALIFORNIA

SHEET NUMBER
9-1
OF SHEETS
DRAWING NO.
200917451

2009174.2 (200917451)



2009174_1 2009174.2

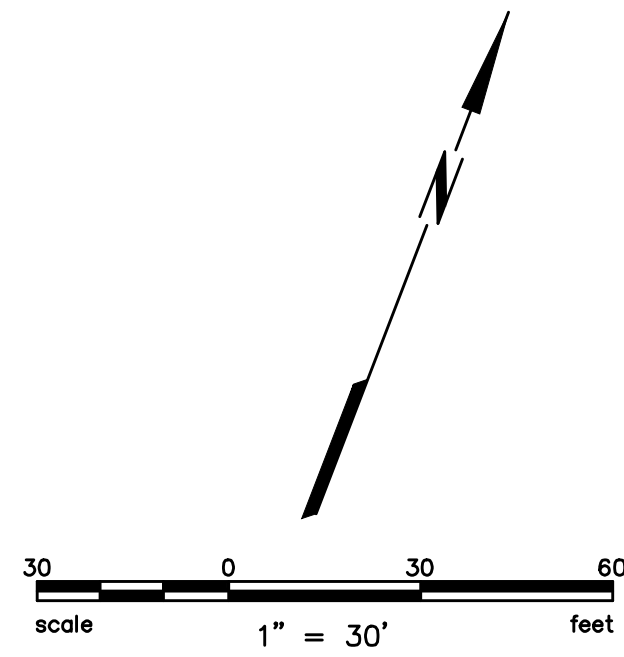


RETROFIT FRAME SECTION

1/2" = 1'-0"

APPENDIX D: PRELIMINARY STRUCTURE COST ESTIMATE

APPENDIX E: PRELIMINARY TRAFFIC HANDLING PLANS



LEGEND

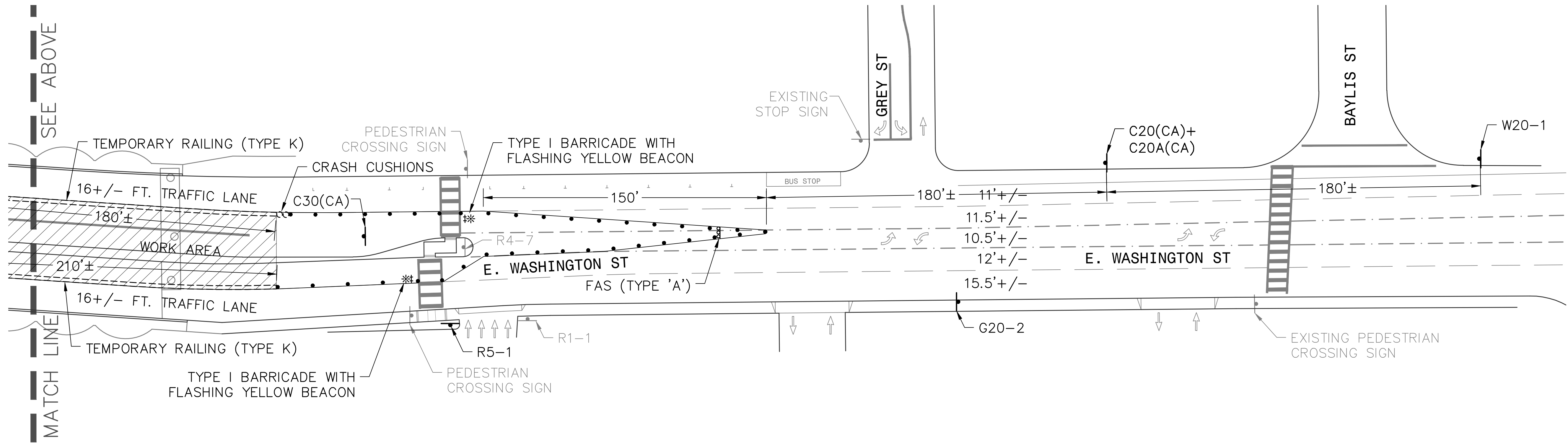
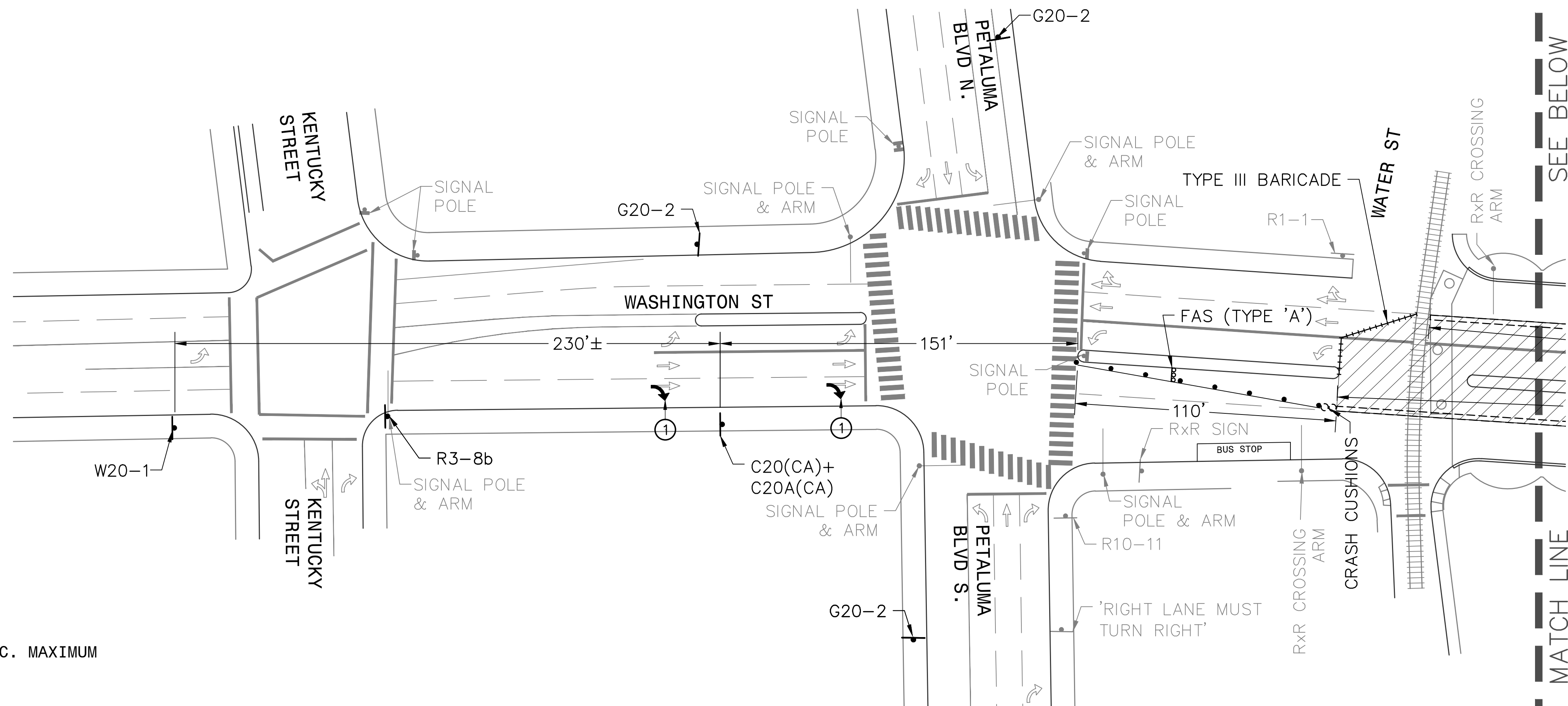
- G20-2 'END ROAD WORK'
- W20-1 'ROAD WORK AHEAD'
- C20(CA)+ 'RIGHT LANE CLOSED AHEAD'+
- C20A(CA) 'LEFT' PLAQUE
- C30 'LANE CLOSED'



- R3-8b
- R5-1 'DO NOT ENTER'
- R1-1 STOP SIGN
- R10-11 'NO TURN ON RED'



- PORTABLE DELINEATORS, 25 FT O.C. MAXIMUM
- ===== TEMPORARY RAILING (TYPE K)



ABBREVIATIONS

FAS FLASHING ARROW SIGN

KEYNOTES



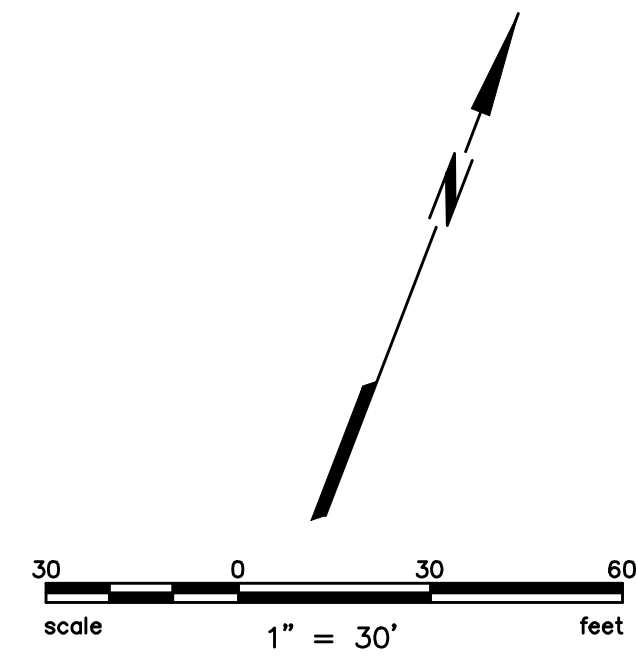
REMOVE EXISTING DIRECTIONAL PAVEMENT MARKINGS AND INSTALL RIGHT TURN PAVEMENT MARKING AS SHOWN.

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 06/05/2014



CONCEPTUAL TEMPORARY TRAFFIC PLAN/NOT FOR CONSTRUCTION (6/5/14)

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:	BY:	
			AS SHOWN		
					DESCRIPTION
					REV / DATE
BKF					
BIGGS CARDOSA ASSOCIATES INC STRUCTURAL ENGINEERS					
665 The Alameda 408-286-5310 95126					
EAST WASHINGTON STREET PHASE ONE PILE AND CAP CONSTRUCTION LANE CLOSURE					
CITY OF PETALUMA WASHINGTON STREET BRIDGE					
CALIFORNIA					
PETALUMA					
SHEET NUMBER					
C-1					
OF 3 SHEETS					
DRAWING NO. 119038_SITE					



LEGEND

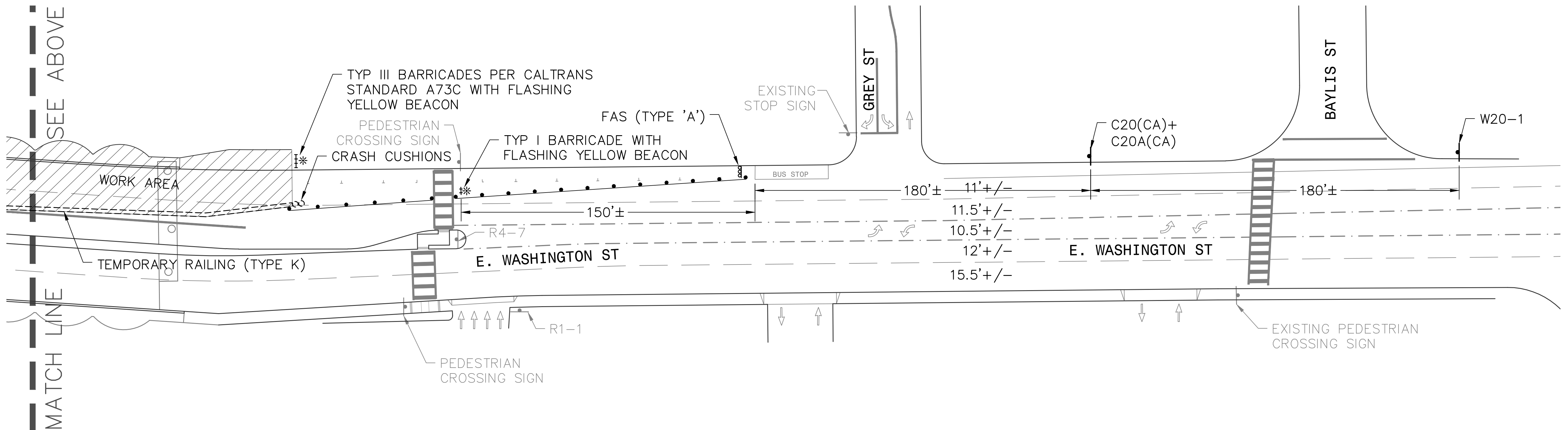
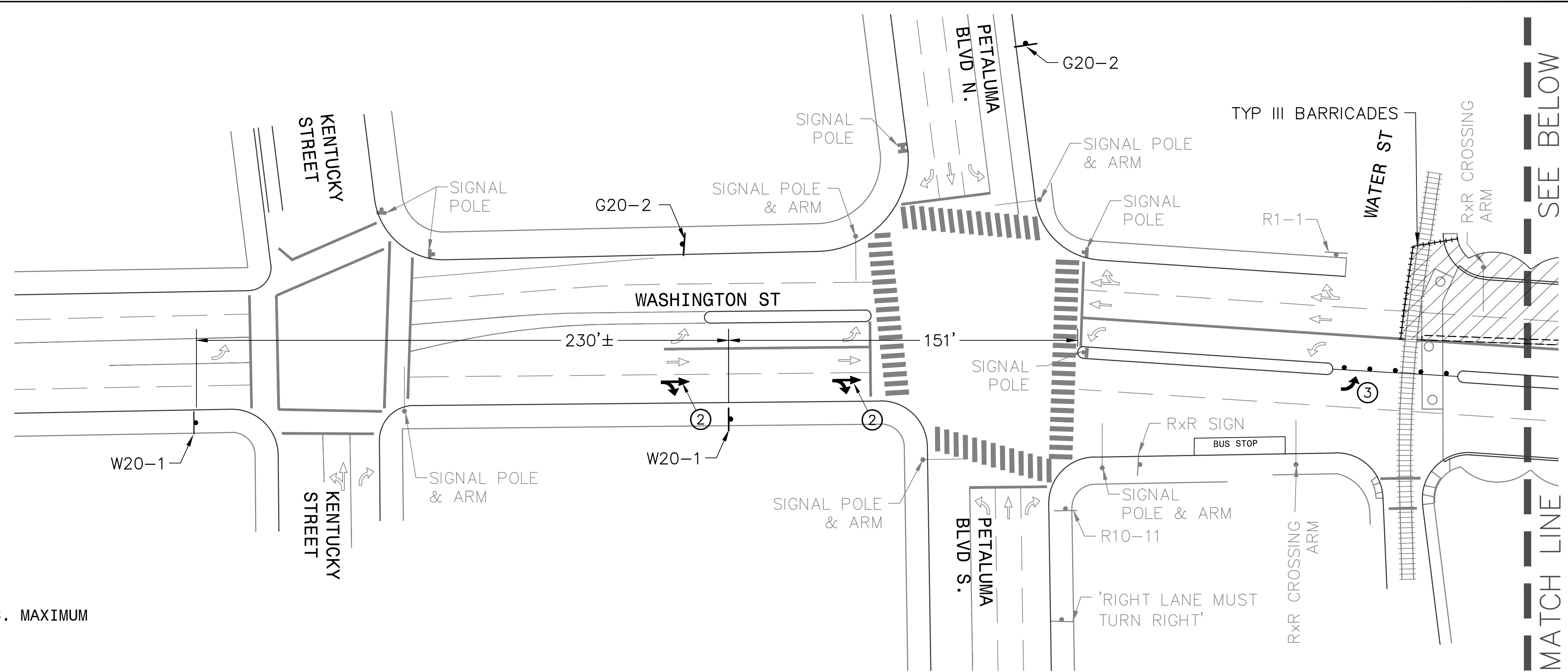
- G20-2 'END ROAD WORK'
- W20-1 'ROAD WORK AHEAD'
- C20(CA)+ 'RIGHT LANE CLOSED AHEAD'+
- C20A(CA) 'LEFT' PLAQUE
- C30 'LANE CLOSED'



- R3-8b
- R5-1 'DO NOT ENTER'
- R1-1 STOP SIGN
- R10-11 'NO TURN ON RED ●'



- PORTABLE DELINEATORS, 25 FT O.C. MAXIMUM
- ===== TEMPORARY RAILING (TYPE K)



ABBREVIATIONS

FAS FLASHING ARROW SIGN

KEYNOTES

- ② INSTALL DIRECTIONAL PAVEMENT MARKINGS AS SHOWN.
- ③ DELIVERY TRUCKS TO WATER STREET NORTH BOUND SHALL REQUIRE TEMPORARY TRAFFIC CONTROL TO ALLOW LEFT TURN MOVEMENT ACROSS WEST BOUND TRAFFIC LANES.

PRELIMINARY
NOT FOR CONSTRUCTION
DATE: 06/05/2014



CONCEPTUAL TEMPORARY TRAFFIC PLAN/NOT FOR CONSTRUCTION (6/5/14)

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:	BY:	
			AS SHOWN		
					DESCRIPTION
					REV / DATE
BKF					
BIGGS CARDOSA ASSOCIATES INC STRUCTURAL ENGINEERS					
865 The Alameda 408-286-5510 95126					
EAST WASHINGTON STREET PHASE TWO PILE AND CAP CONSTRUCTION LANE CLOSURE CITY OF PETALUMA WASHINGTON STREET BRIDGE CALIFORNIA					
SHEET NUMBER C-2					
OF 3 SHEETS					
DRAWING NO. 119038_SITE					

APPENDIX F: PRELIMINARY GEOTECHNICAL RECOMMENDATIONS

MEMORANDUM

To: Biggs Cardosa Associates, Inc.
865 The Alameda
San Jose, CA 95126

September 22, 2012
Job No.: 2012-113-FDN

Attn.: Ms. Mahvash Harms, S.E.

From: Y. David Wang, Ph.D., P.E. 52911

Sub: Preliminary Geotechnical Memo for Seismic Retrofit Design
Washington Street Bridge at Petaluma River, City of Petaluma, CA

This memo summarizes the preliminary geotechnical information for seismic retrofit design of the Washington Street Bridge at Petaluma River in the City of Petaluma, CA. The basis of our study is the as-built plans (1970) and a new boring we performed at the east abutment area in August 2012. Previously, a geotechnical memo was developed for seismic vulnerability evaluation study of the subject bridge in October 2009. The current project is to provide geotechnical input for design of seismic retrofit with the recently acquired subsurface data.

Subsurface Conditions

The subsoil conditions are based on the current investigation performed at the east abutment area in August 2012, and as-built Log of Test Borings (LOTB, 1967) sheet.

Field Exploration. For current investigation, one boring was explored in August 2012 using rotary wash drilling method at the east abutment area to verify the material type and extension of potential liquefiable soil layer. The drilling was performed by Technicon Engineering Service, Inc. of Fresno, CA. Selected samples were obtained from 2.0-inch O.D. & 1.4-inch I.D. (Standard Penetration) and 3.0-inch O.D. & 2.5-inch I.D. (Modified California) samplers at various depths. The samplers were driven into subsurface soils under the impact of a 140-pound hammer having a free fall of 30 inches. When correlating standard penetration data, the blow counts for the Modified California sampler may be converted to equivalent SPT blow counts by multiplying a factor of 0.65. The samples were sealed and transported to our laboratory for further evaluation and testing.

Based on information provided by Technicon, the calibrated hammer energy ratio of the drill rig (CME) is on the order of 85%. The field investigation was conducted under the supervision of our field engineer who logged the test borings and prepared the samples for subsequent

laboratory testing and evaluation. Both the as-built LOTB and current LOTB sheets are attached. The approximate boring location of the recent investigation is shown in the attached Site Plan.

Subsoil Conditions. The recent boring at the east abutment area encountered existing pavement sections (7" AC over 6" AB) over generally medium stiff to stiff clay with some fine sand through about Elev. 7 ft. Below that, the boring encountered soft Young Bay Mud with moisture content in the range of 60% to 80% through Elev. 2 ft. Between Elev. 2 and -7 ft, the material appears to be mixed layers of clayey sand and stiff sandy lean clay. The clayey sand is loose in consistency. Below Elev. -7 ft, the boring encountered hard silt, very dense silty sand and hard clay through Elev. -65 ft.

At the west abutment, the as-built LOTB sheet indicated gravelly silt and sand fill over loose sand through about Elev. -2 ft overlying very dense fine sand and hard clay through Elev. -45 ft. The relatively competent material (very dense fine sand and silty sand) is at higher elevation at the west abutment (Elev. -2 ft) and lower elevation at the east abutment (Elev. -12 ft). At the bent (within the Petaluma River), the as-built borings encountered very dense material at about Elev. -10 to -12 ft.

Groundwater was indicated at Elev. 1.8 ft on the as-built LOTB sheet. The groundwater is expected to reflect the water level in the Petaluma River and tidal changes. It should be noted that the groundwater level is anticipated to vary with the passage of time due to seasonal groundwater fluctuation, surface and subsurface flows, ground surface run-off, and other factors that may not be present at the time of investigation.

It should be noted that the descriptions of the soils encountered and relevant boring information presented on the LOTB depict subsurface conditions only at the locations indicated on the plan and on the particular date noted on the LOTB. Because of the variability from place to place within soil/rock in general, subsurface conditions at other locations may differ from conditions occurring at the boring locations explored. The abrupt stratum changes shown on the logs may be gradational and relatively minor changes in soil types within a stratum may not be noted on the logs due to field limitations. Also, the passage of time may result in a change in the soil conditions at these locations due to environmental changes.

Seismic Design Criteria

Caltrans 2007 Deterministic PGA Map shows that the site is approx. 8.4 km from the Rodgers Creek Fault ($M_{max} = 7.1$; Fault Type: RLSS). Based on Caltrans 2009 Seismic Design Criteria, both deterministic and probabilistic approaches are considered for design. The deterministic approach is based on the Next Generation Attenuation (NGA) model and the probabilistic approach adopts USGS Deaggregation Hazard analysis.

Based on the analyses, the recommended ARS design curve per Caltrans 2009 criteria is governed by Caltrans 2009 ARS Online - Probabilistic ARS (5% Damping). A shear wave



velocity (V_{s30}) value of 330 m/sec was estimated based on the boring data in accordance with Caltrans guidelines. The recommended ARS design curve is attached with the memo. The printout of Caltrans probabilistic spread sheet is also attached for reference.

As-Built Foundation Capacity

The as-built plans indicate that the existing abutments and pier are supported on steel H piles (12BP53) with a design capacity of 60 Tons per pile. The minimum pile tip elevations are at Elev. -14 ft (Abutment 1), -21 ft (Abutment 3), and -21 feet (Pier 2). The LOTB sheet shows that the subsurface conditions consist of loose sand and silt at the abutments through Elev. -2 ft (Abutment 1) and Elev. -12 ft (Abutment 3) overlying very dense fine sand hard clay. There appears to be minimum “soil” within the river flow channel. The bottom of the channel, as indicated on the LOTB, was at approx. Elev. -10 ft. The standard penetration test data (SPT-N values) in the underlying very dense fine sand are typically 80 to 100+ blows per ft through Elev. -50 ft. The blow count data appears to be comparable to the recent boring.

For seismic retrofit evaluation, the recommended ultimate pile capacity of the as-built piles is 120 Tons for the 12BP53 piles driven into the very dense fine sand.

Geotechnical Parameters for Lateral Load Analysis

For lateral design, the geotechnical parameters for LPILE program are presented below. Per the as-built plans and boring data, the existing riverbed at Pier 2 is approximately at Elev. -10 ft; the existing Washington Street grade appears to at Elev. 15.8 ft. The recommended groundwater level for design is at Elev. 4 ft.

Abutment 1 (West; abut wall to Elev. -2 ft):

Approx. Elev. (ft.)	Generalized Soil Profile	LPILE Soil Type	Probable Soil Strength	Effective Unit Wt. (pci)
Grade to 4	Sand (fill)	4, SAND	$\phi = 30^\circ$	0.064
4 to -2	Sand & Silt, some gravel, loose, (Potentially liquefiable)	4, SAND (without liquefaction)	$\phi = 30^\circ$	0.030
		1, CLAY (liquefaction case; model as soft clay)	C = 250 psf	0.030
Below -2	Very dense Silty Sand and Hard Clay	7, SILT	$\phi = 36^\circ$ C = 2000 psf	0.039



Abutment 3 (East; abut wall to Elev. 5.5 ft):

Approx. Elev. (ft.)	Generalized Soil Profile	LPILE Soil Type	Probable Soil Strength	Effective Unit Wt. (pci)
Grade to 7	Clay (fill)	3, CLAY	C = 1250 psf	0.064
7 to 2	Soft Clay	1, CLAY	C = 250 psf	0.030
2 to -4	Soft Clay	1, CLAY	C = 500 psf	0.030
-4 to -7	Clayey Sand, loose, (Potentially liquefiable)	4, SAND (without liquefaction)	$\phi = 30^\circ$	0.030
		1, CLAY (liquefaction case; model as soft clay)	C = 250 psf	0.030
-7 to -11	Silt/Clay	3, CLAY	C = 3500 psf	0.039
Below -11	Very dense Silty Sand and Hard Clay	7, SILT	$\phi = 36^\circ$ C = 2000 psf	0.039

Pier 2 (The existing riverbed is at approx. Elev. -10 ft):

Approx. Elev. (ft.)	Generalized Soil Profile	LPILE Soil Type	Probable Soil Strength	Effective Unit Wt. (pci)
Below -10	Very dense Silty Sand and Hard Clay	7, SILT	$\phi = 36^\circ$ C = 2000 psf	0.039

- For K and E_{50} , use default values in the LPILE program.
- The existing piles (steel H - 12BP53) are typically spaced at approx. 7 ft on center. There is no group reduction for the existing condition.

Embankment Stability/Lateral Spreading & Post-Liquefaction Settlement.

Based on the recent boring data, we have evaluated the embankment stability/lateral spreading at the site. Liquefaction potential is relatively high at the site for the loose sand, particularly the clayey sand below the Bay Mud encountered at the east abutment. The embankment stability at the site is governed by the east embankment where liquefiable sand layer was encountered at about Elev. -4 to -7 ft, which may be mixed or interbedded with some clays (Bay Mud). At the west abutment, the very dense sand is at higher elevation (at Elev. -2 ft), and the abut wall extends to Elev. -2 ft. The shallow loose sand behind the Abutment 1 wall will pose additional lateral earth pressure to the wall at liquefied state (see next Section). At the east abutment, the stability/lateral spreading is evaluated by performing post-liquefaction stability analysis of the embankment slope where the liquefiable sand is modeled as soft clay with residual soil strength (Sr). The Sr value is estimated per Kramer and Wang (2007) as cited in Caltrans guidelines. Based on the recent exploration, it is possible that the on-site sandy layer may be mixed with clays from the Bay Mud deposits.

The stability is governed by the loose clayey sand at elev. -4 to -7 ft. The adopted residual strength Sr is 250 psf for the layer. The stability analysis was performed using "SLOPE/W"



Program by GEO-SLOPE International. Based on the analyses, the obtained min. factor of safety is about 1.5 under post-liquefaction (residual strength) condition. The factor of safety is acceptable for the embankment stability.

Liquefaction settlement should be anticipated at the site once pore water pressure dissipates. Based on the boring data, we have estimated liquefaction settlement based on a volumetric strain of about 2.5% in accordance with Tokimatsu and Seed (1987). The anticipated liquefaction settlement may be on the order of 1 to 2 inches.

Lateral Earth Pressure at Abut 1 (Liquefaction Case)

At Abut 1, the abutment wall extends to Elev. -2 ft (per the as-built plans). The material retained behind the abutment wall is subject to liquefaction. Liquefaction behind the wall will increase lateral earth pressure at the abutment wall. The recommended lateral earth pressure Abut 1 wall under liquefaction condition is attached with the memo.

Please be advised that we are performing a professional service and that our conclusions are professional opinions only. All work done and all recommendations made are in accordance with generally accepted geotechnical engineering principles and practices. No warranty, expressed or implied, of merchantability or fitness, is made or intended in connection with our work.

Attachments: Site Plan, Log of Test Boring & As-Built LOTB
ARS Design Curve & Printout of Caltrans Probabilistic Spread Sheet
Post-Liquefaction Stability Analysis (Abutment 3)
Lateral Earth Pressure at Abutment 1 (Liquefaction Case)



DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No	TOTAL SHEETS
X	X	X			

GEOTECHNICAL PROFESSIONAL DATE X



PLANS APPROVAL DATE

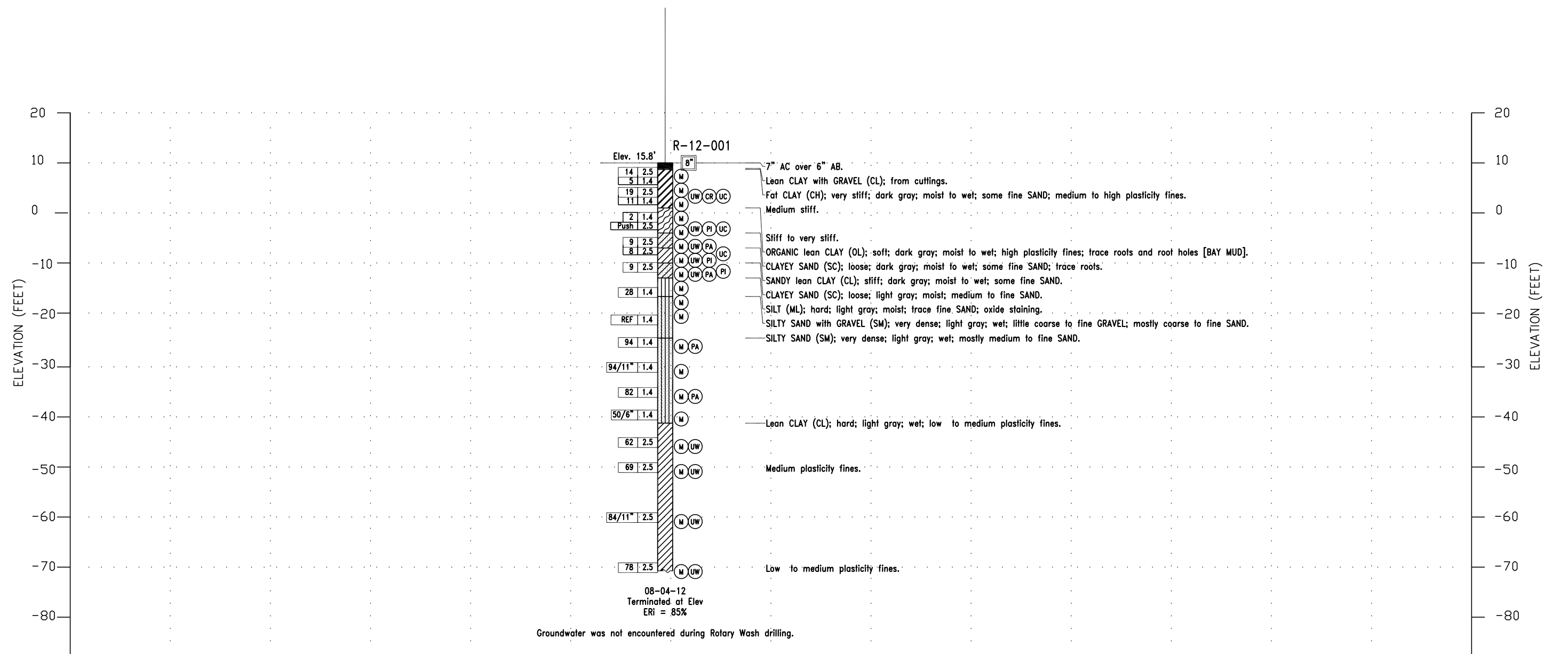
The City or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

PARIKH CONSULTANTS, INC.
2360 OUME DRIVE, SUITE A
SAN JOSE, CA 95131

DRAFT

Notes:
Standard Penetration Test Sampler: I.D. = 1.4"; O.D. = 2"
Modified California Sampler: I.D. = 2.5"; O.D. = 3"
Hammer Assembly: A 140 lb hammer with a 30" drop (Automatic Hammer)

This LOTB sheet was prepared in accordance with the Caltrans Soil & Rock, Logging, Classification, and Presentation Manual (2010 Edition)
All dimensions are in feet unless otherwise shown



PROFILE
Vert. : 1" = 10'
Hor. : 1" = 50'

Opouthier Sep 21, 2012 - c:\36pm S:\MAD\2012-113\FDM\LOTB.dwg

TIME PLOTTED => \$TIME
DATE PLOTTED => \$DATE
USERNAME => \$USER

DESIGN OVERSIGHT	DRAWN BY X	FIELD INVESTIGATION BY: X	BRIDGE NO. X	LOG OF TEST BORINGS X
SIGN OFF DATE	CHECKED BY X	DATE: X	PROJECT ENGINEER X	
GS GEOTECHNICAL LOG OF TEST BORINGS SHEET (ENGLISH) (REV. 7/16/10)			CONTRACT NO.: X	PROJECT ID: X

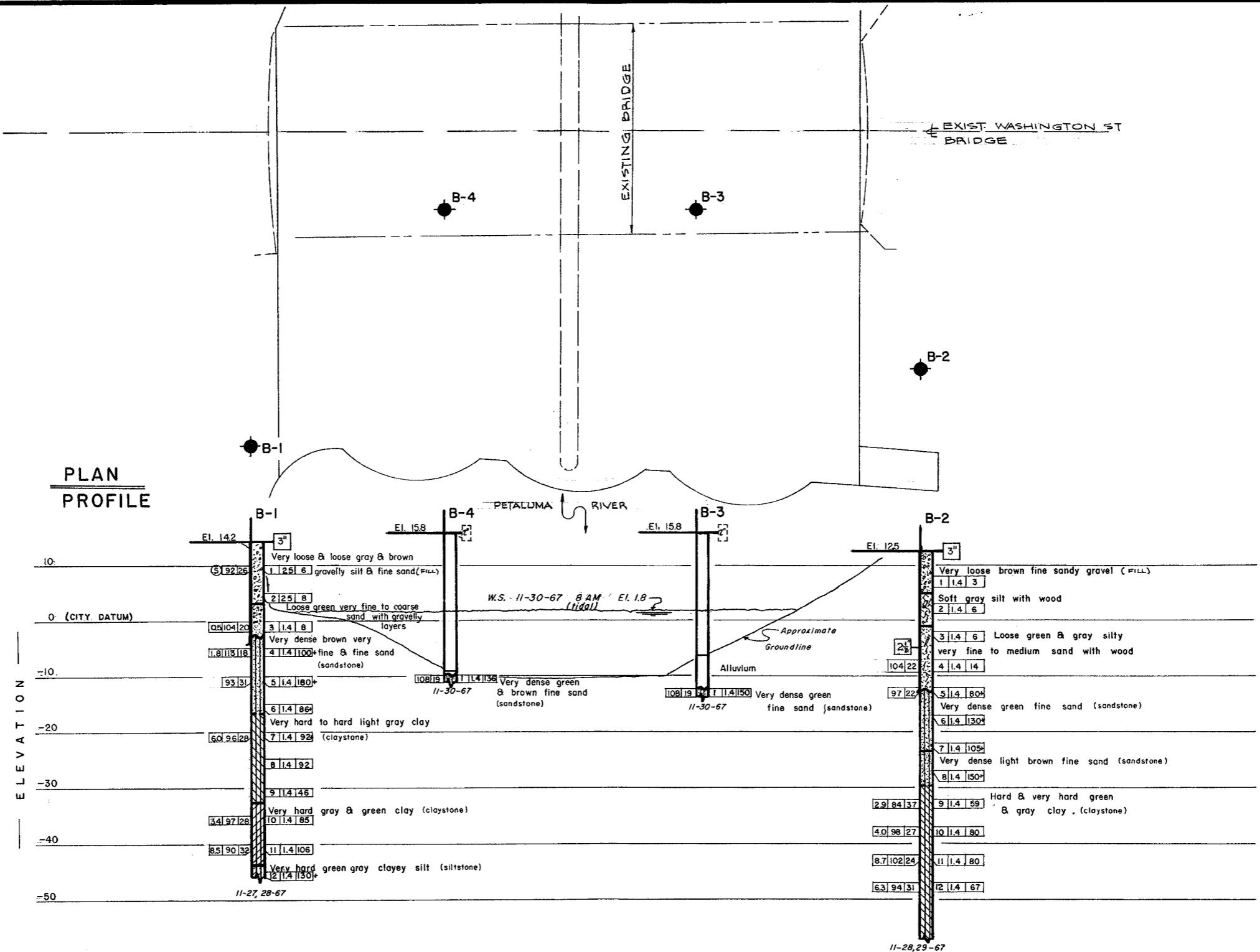


SCALE: 1"=10'

NOTE 1: T.B.M. U.S.E.D. Mon. 7
Near NE Corner Existing
Bridge — El. 13.6 MSL

NOTE 2: All Elev. Based on MSL
Add 3.2' for MLLW

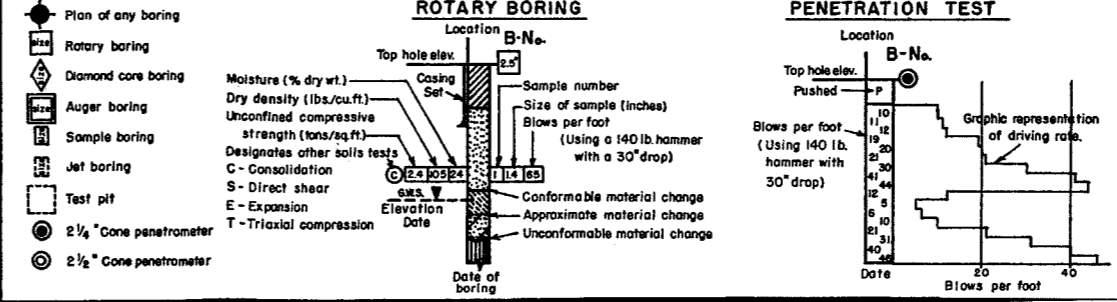
PLAN
PROFILE



LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION										MATERIAL SYMBOLS		CONSISTENCY CLASSIFICATION FOR SOILS							
Pt	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW	Gravel	Peat or organic matter	According to the Standard Penetration Test		
Highly organic soils	Sills and clays Liquid limit greater than 50		Sills and clays Liquid limit less than 50		Sands with fines >12% fines		Clean sands <12% fines		Gravels with fines >12% fines		Clean gravels <12% fines		Gravel	Fill material	0-5	Very loose	Very soft		
Fine grained soils (More than 50% is smaller than No. 200 sieve)				Coarse grained soils (More than 50% is larger than No. 200 sieve)				Gravels - more than 50% of coarse fraction is smaller than No. 4 sieve		Gravels - more than 50% of coarse fraction is larger than No. 4 sieve		Sand	Shale	6-10	Loose	Soft			
LABORATORY CLASSIFICATION CRITERIA										Silt	Sandstone	11-20	Semicompact	Stiff	Clay	Limestone	21-35	Compact	Very stiff
GW and SW - $C_u \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3.										Metamorphic rock	36-70	Dense	Hard	Sandy clay or clayey sand	Igneous rock	>70	Very dense	Very hard	
GP and SP - Clean gravel or sand not meeting requirements for GW and SW.										Sandy silt or silty sand									
GM and SM - Atterberg limits below "A" line or P.I. less than 4.										Silty clay or clayey silt									
GC and SC - Atterberg limits above "A" line with P.I. greater than 7.																			
Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis unless so stated.																			

LEGEND OF BORING OPERATIONS



MOORE & TABER - Engineers-Geologists

APPROVED *H. R. Taber* 12-11-67 REGISTERED CIVIL ENGINEER No. 9165 JOB No. 5734 F

DE LEUW, CATHER & COMPANY
CITY OF PETALUMA

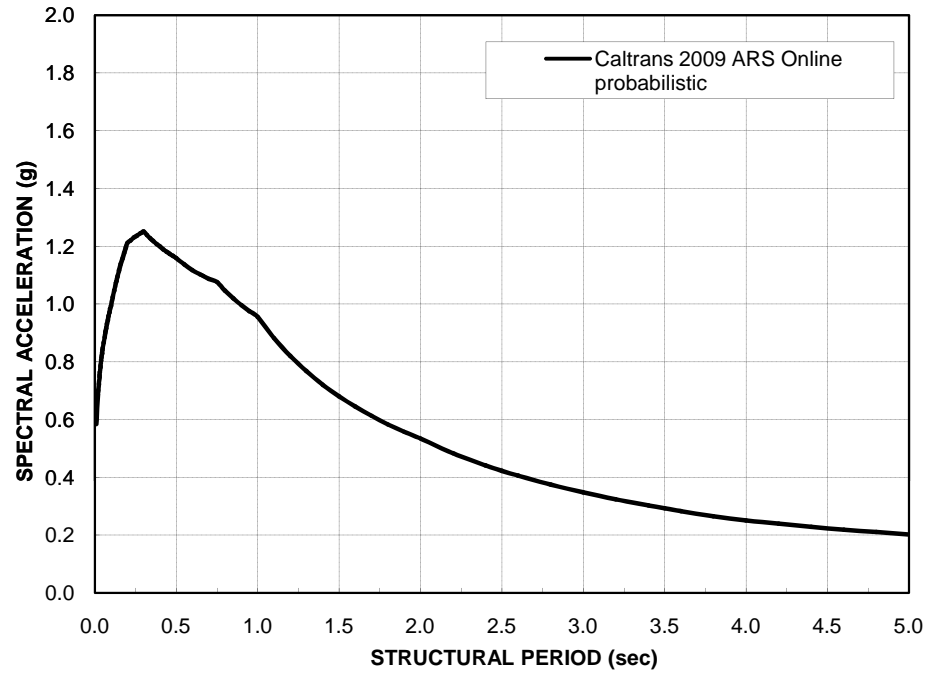
WASHINGTON STREET BRIDGE

LOG OF TEST BORINGS

Scale 1"=10' Date Dec. 1967 By _____ Check by _____ Drawing 5-2 14

5-126

**WASHINGTON STREET BRIDGE RETROFIT
PETALUMA, CALIFORNIA**



- 1) Recommended ARS Curve per the latest Caltrans Seismic Design Criteria (2009)
- governed by Caltrans 2009 ARS Online Probabilistic



PARIKH CONSULTANTS, INC.
GEOTECHNICAL CONSULTANTS
MATERIALS TESTING

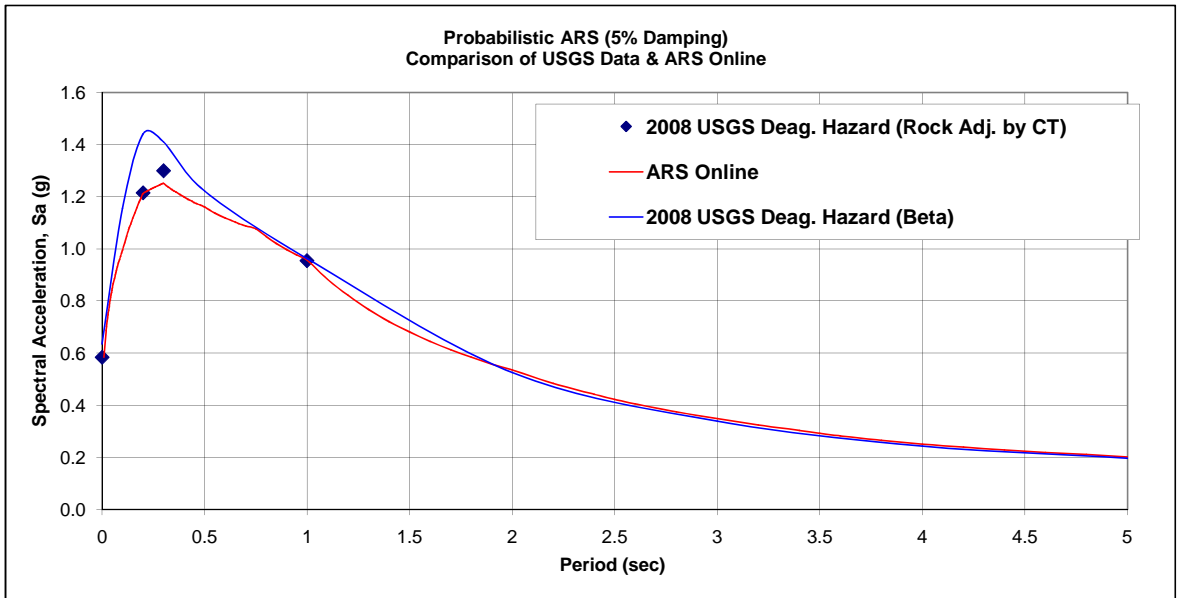
**WASHINGTON STREET BRIDGE RETROFIT
PETALUMA, CALIFORNIA**

JOB NO.: 209125.10

PLATE NO.:

* Note: This spreadsheet uses the given latitude and longitude data provided by the user to estimate spectral acceleration values with a probability of exceedence 5% in 50 yrs (or 975 yr return period). The four spectral acceleration data points plotted on the graph are from the USGS website and are based on a 0.05 degree grid. Basic interpolation is used to estimate intermediate values inside each grid. Raw Data points are provided in the tabs of this spreadsheet. Corner grid spectral acceleration data are shown in the "calculation" tab.

Input Site Information	
Latitude	Longitude
38.2359	-122.6384
V_{s30} (m/s) =	330
Near Fault Factor, Derived from USGS Deagg. Dist (km) =	7.2
$Z_{1.0}$ (m) =	294
$Z_{2.5}$ (km) =	2



Place ARS Online Probabilistic Data Here "Paste"				
T (sec)	Base Spectrum S(a)	Basin Factor	Near Fault Factor	Final Adj. Spectrum S(a)
0.01	0.585	1	1	0.585
0.02	0.686	1	1	0.686
0.022	0.702	1	1	0.702
0.025	0.723	1	1	0.723
0.029	0.748	1	1	0.748
0.03	0.754	1	1	0.754
0.032	0.765	1	1	0.765
0.035	0.781	1	1	0.781
0.036	0.786	1	1	0.786
0.04	0.805	1	1	0.805
0.042	0.815	1	1	0.815
0.044	0.823	1	1	0.823
0.045	0.828	1	1	0.828
0.046	0.832	1	1	0.832
0.048	0.84	1	1	0.84
0.05	0.848	1	1	0.848
0.055	0.867	1	1	0.867
0.06	0.885	1	1	0.885
0.065	0.901	1	1	0.901
0.067	0.907	1	1	0.907
0.07	0.917	1	1	0.917
0.075	0.931	1	1	0.931
0.08	0.945	1	1	0.945
0.085	0.959	1	1	0.959
0.09	0.971	1	1	0.971
0.095	0.984	1	1	0.984
0.1	0.995	1	1	0.995
0.11	1.023	1	1	1.023
0.12	1.048	1	1	1.048
0.13	1.073	1	1	1.073
0.133	1.08	1	1	1.08
0.14	1.095	1	1	1.095
0.15	1.117	1	1	1.117
0.16	1.138	1	1	1.138
0.17	1.158	1	1	1.158
0.18	1.177	1	1	1.177
0.19	1.195	1	1	1.195
0.2	1.212	1	1	1.212
0.22	1.221	1	1	1.221
0.24	1.23	1	1	1.23
0.25	1.234	1	1	1.234
0.26	1.237	1	1	1.237
0.28	1.245	1	1	1.245

Analysis of ARS Online Results vs USGS Deaggregation Hazard (Adj. By CT)							
Period (sec)	USGS Interpolated Spectral Accel.	Adj. for Near Fault Effect	Adj. for Soil Amplification	Adj. For Basin Effect	Final Adj. USGS Spec Accel	ARS Online Final Adj. Spect. Accel.	% Difference (bet. USGS & ARS Online)
0	0.571	1.000	1.024	1.000	0.584	0.585	-0.1%
0.2	1.709	1.000	0.865	1.000	1.215	1.212	0.2%
0.3	1.180	1.000	1.101	1.000	1.299	1.251	3.7%
1	0.468	1.200	1.700	1.000	0.954	0.956	-0.2%

Max % Difference = **3.7%**

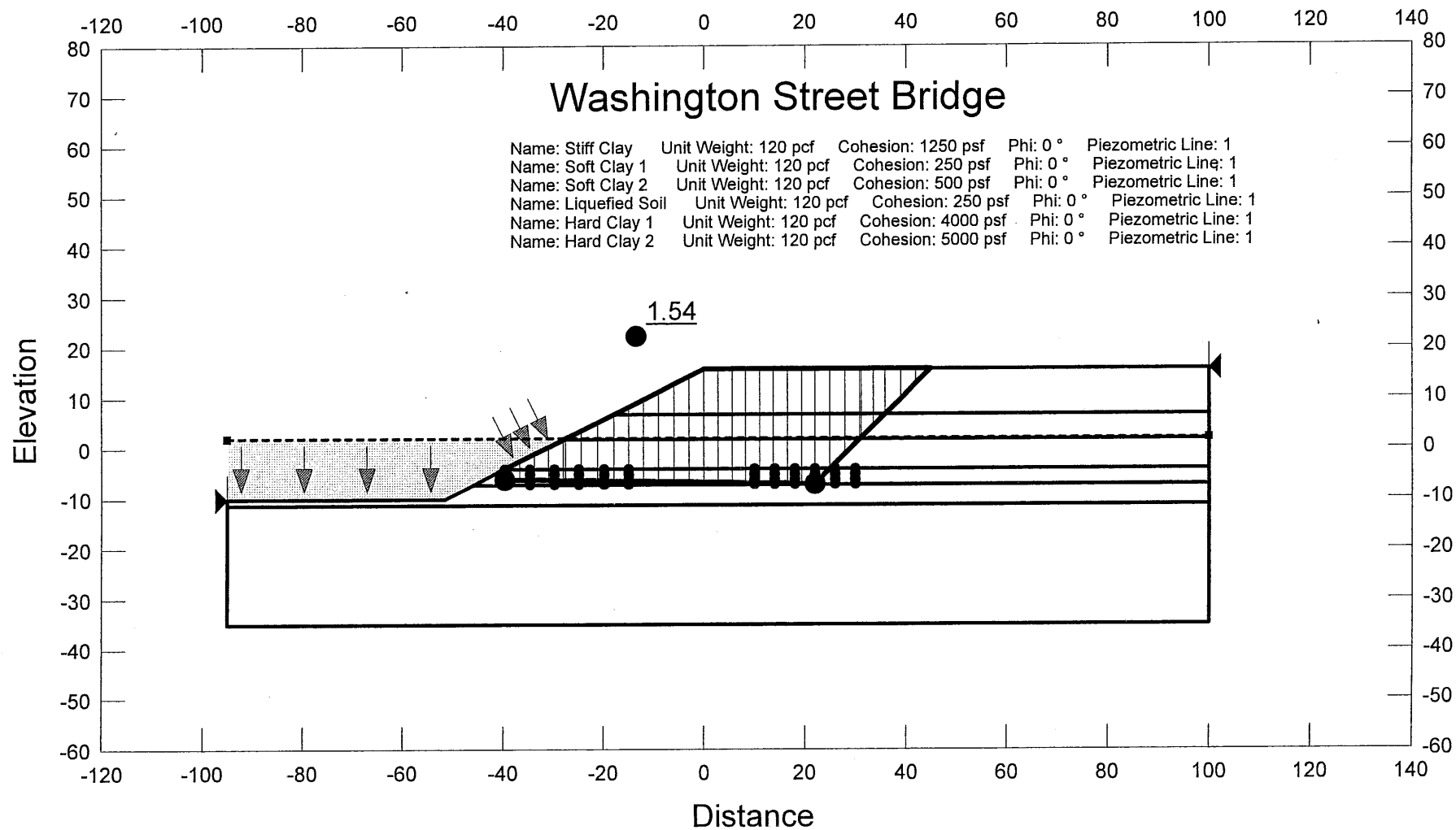
USGS Deaggregation Hazard (Beta) with Near Field and Basin Factors						
Period (sec)	INPUT USGS Deagg. Spec Accel	Adj. for Near Fault Effect	Adj. For Basin Effect	Final Adj. USGS Deagg Spec Accel	ARS Online Final Adj. Spect. Accel.	% Difference (bet. USGS & ARS Online)
0	0.6354	1.000	1.000	0.635	0.585	7.9%
0.1	1.1551	1.000	1.000	1.155	0.995	13.9%
0.2	1.4402	1.000	1.000	1.440	1.212	15.8%
0.3	1.4105	1.000	1.000	1.411	1.251	11.3%
0.5	1.2217	1.000	1.000	1.222	1.16	5.1%
1	0.8023	1.200	1.000	0.963	0.956	0.7%
2	0.4377	1.200	1.000	0.525	0.535	1.9%
3	0.2829	1.200	1.000	0.339	0.349	2.8%
4	0.2033	1.200	1.000	0.244	0.251	2.9%
5	0.1639	1.200	1.000	0.197	0.202	2.7%

Max % Difference = **5.1%**

WASHINGTON STREET BRIDGE RETROFIT

Design ARS Curve per Caltrans 2009 Seismic Criteria is governed by 2009 ARS Online Probabilistic

0.29	1.248	1	1	1.248
0.3	1.251	1	1	1.251
0.32	1.239	1	1	1.239
0.34	1.228	1	1	1.228
0.35	1.223	1	1	1.223
0.36	1.218	1	1	1.218
0.38	1.208	1	1	1.208
0.4	1.199	1	1	1.199
0.42	1.19	1	1	1.19
0.44	1.182	1	1	1.182
0.45	1.178	1	1	1.178
0.46	1.174	1	1	1.174
0.48	1.167	1	1	1.167
0.5	1.16	1	1	1.16
0.55	1.115	1	1.02	1.137
0.6	1.075	1	1.04	1.118
0.65	1.039	1	1.06	1.102
0.667	1.028	1	1.067	1.097
0.7	1.008	1	1.08	1.088
0.75	0.979	1	1.1	1.077
0.8	0.935	1	1.12	1.047
0.85	0.895	1	1.14	1.02
0.9	0.859	1	1.16	0.997
0.95	0.827	1	1.18	0.976
1	0.797	1	1.2	0.956
1.1	0.736	1	1.2	0.883
1.2	0.684	1	1.2	0.821
1.3	0.64	1	1.2	0.768
1.4	0.601	1	1.2	0.721
1.5	0.567	1	1.2	0.681
1.6	0.538	1	1.2	0.645
1.7	0.511	1	1.2	0.613
1.8	0.487	1	1.2	0.584
1.9	0.465	1	1.2	0.558
2	0.446	1	1.2	0.535
2.2	0.403	1	1.2	0.484
2.4	0.368	1	1.2	0.442
2.5	0.352	1	1.2	0.423
2.6	0.338	1	1.2	0.406
2.8	0.313	1	1.2	0.375
3	0.291	1	1.2	0.349
3.2	0.27	1	1.2	0.324
3.4	0.252	1	1.2	0.303
3.5	0.244	1	1.2	0.293
3.6	0.236	1	1.2	0.283
3.8	0.222	1	1.2	0.266
4	0.209	1	1.2	0.251
4.2	0.2	1	1.2	0.24
4.4	0.191	1	1.2	0.229
4.6	0.183	1	1.2	0.219
4.8	0.175	1	1.2	0.211
5	0.169	1	1.2	0.202

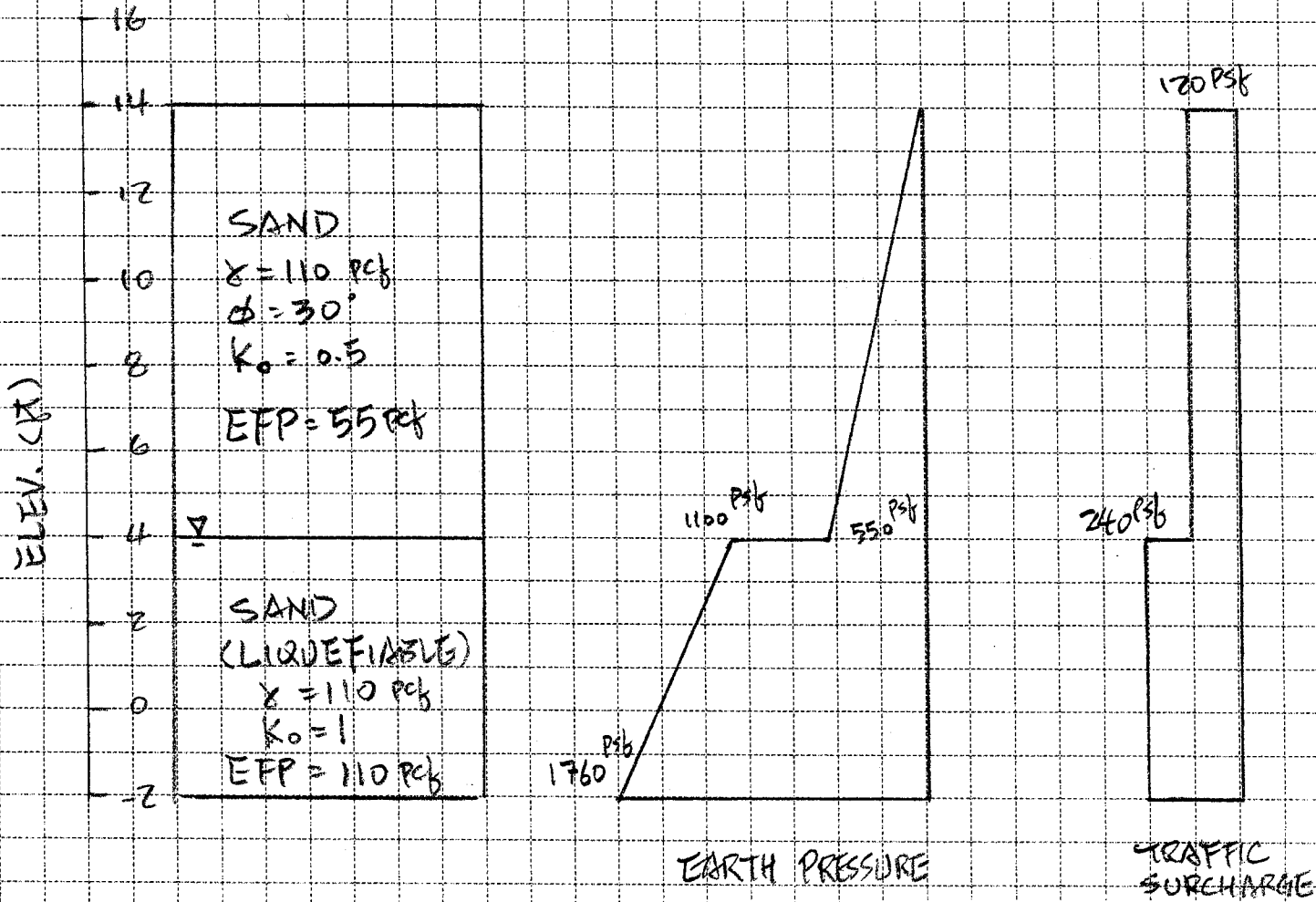


**Post-Liquefaction Stability Analysis at
Abutment 3**

WASHINGTON STREET BRIDGE AT PETALUMA RIVER

ABUTMENT I (LIQUEFACTION CASE) - LATERAL EARTH PRESSURE

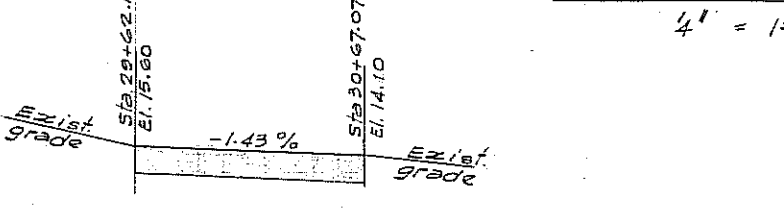
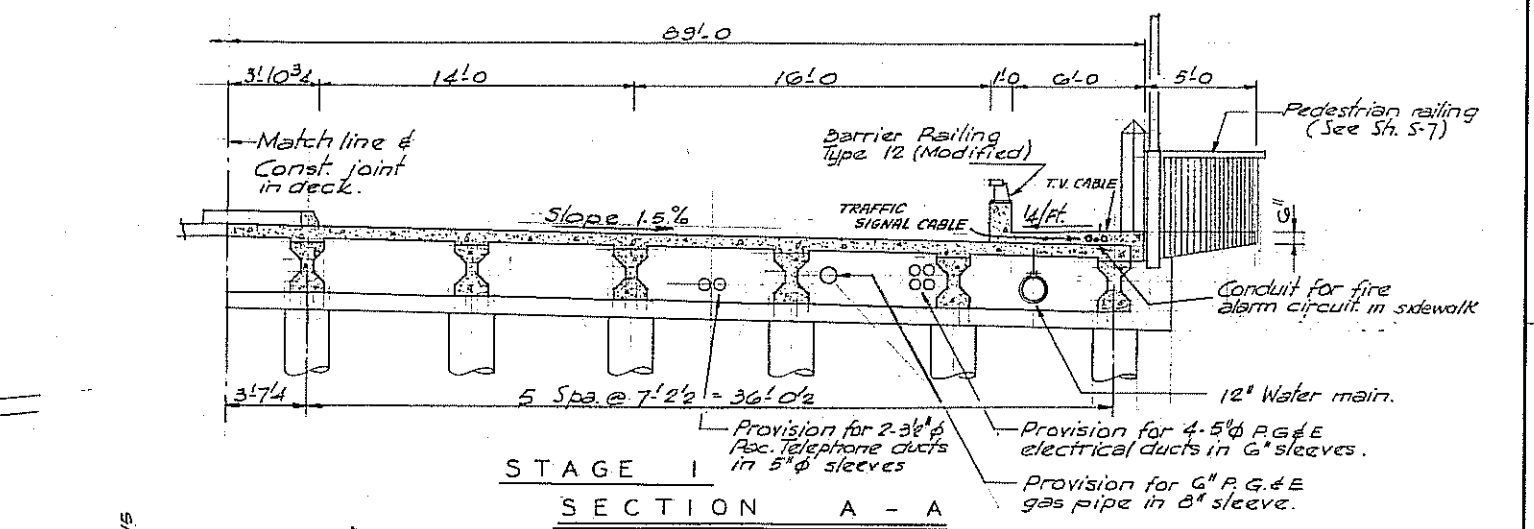
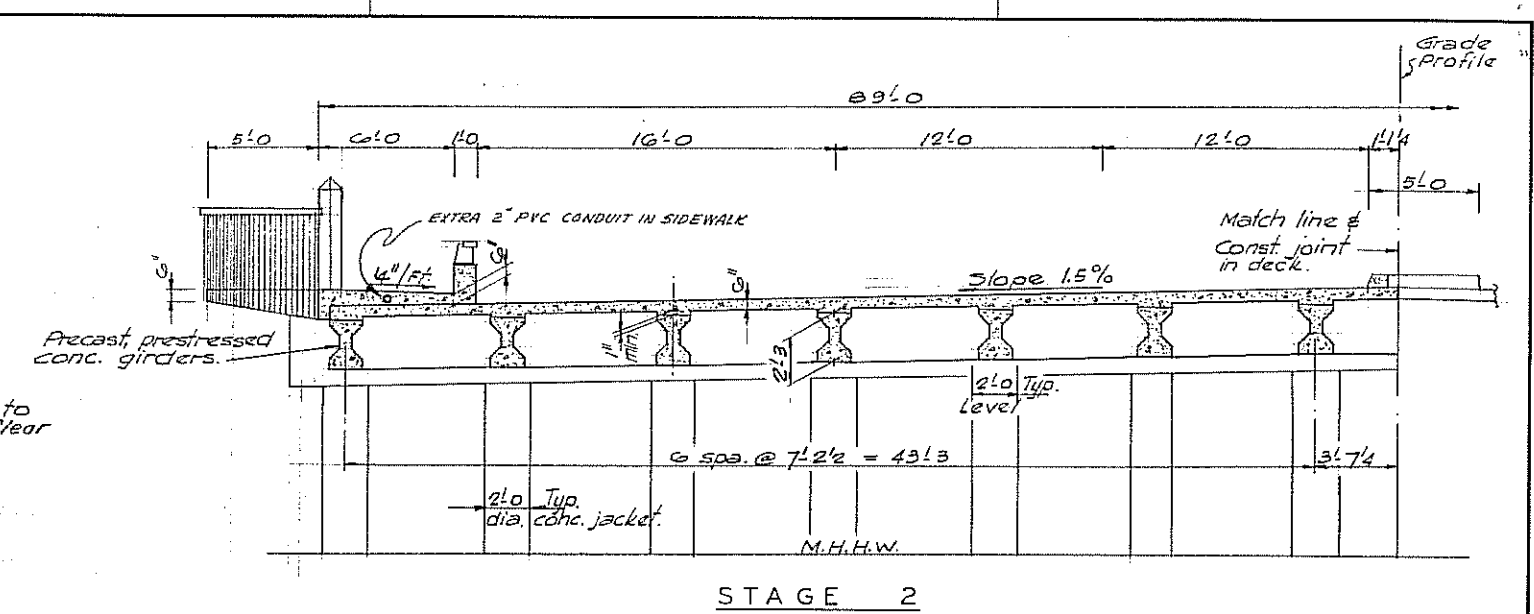
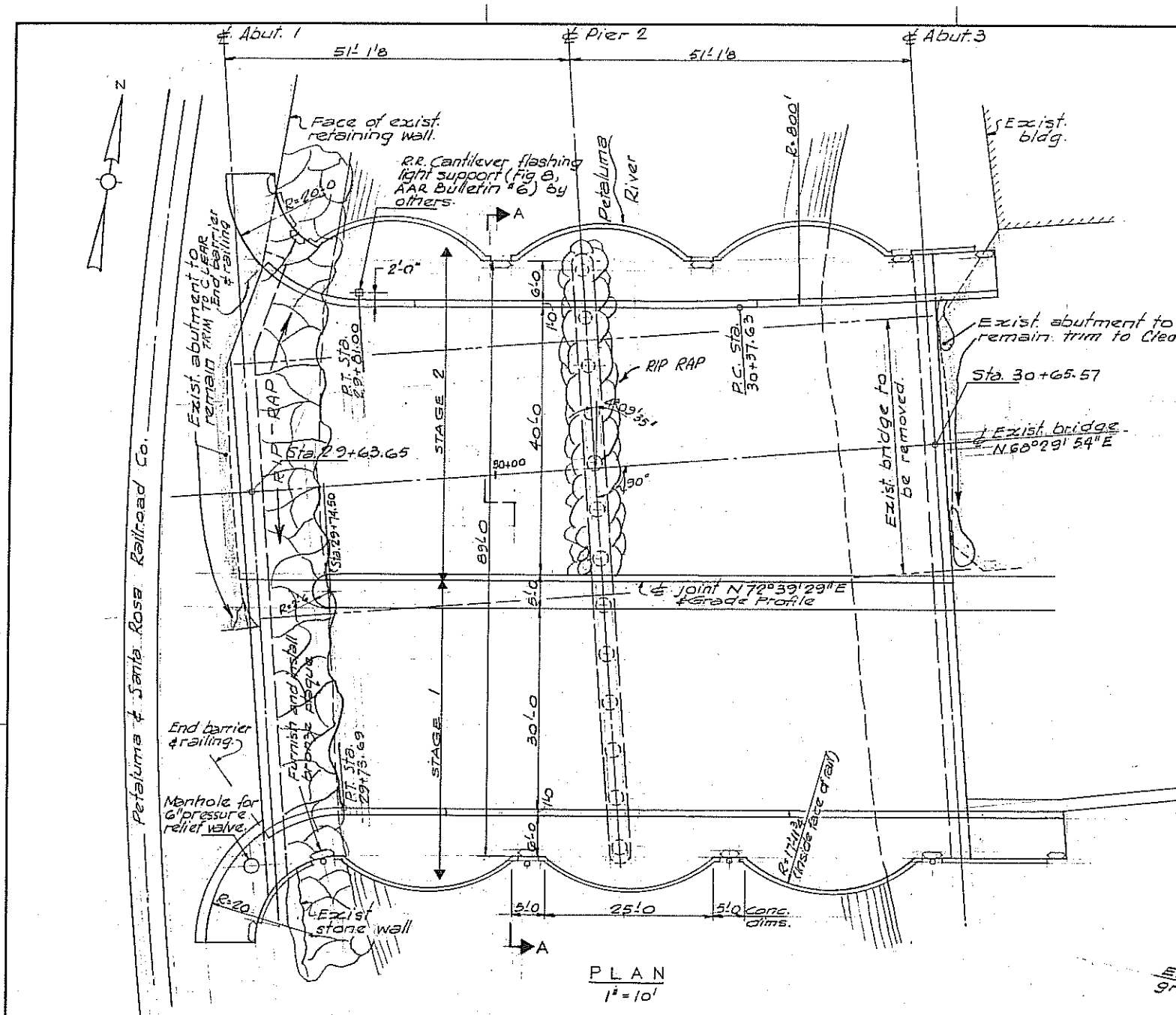
GRADE AT ELEV. 14.2'; ABUT WALL TO ELEV. -2' GW @ ELEV. 4'



JOB OF WASHINGTON ST BR AT PETALUMA
 SHEET NO OF
 CALCULATED BY Y. DAVID WANG DATE 1/8/10
 CHECKED BY DATE
 SCALE 209125.10

Geotechnical * Environmental * Materials Testing * Construction Inspection

APPENDIX G: AS-BUILT PLANS



NOTE:- With the exception of the 12" water line all sleeves and supports for utilities to be supplied by the Utility Co. concerned and installed by the Contractor

BARS TO BE BENT IN ACCORDANCE WITH THE MANUAL OF STANDARD PRACTICE A.C.I. MINIMUM COVER IS 2" FROM OUTSIDE OF MAIN REINFORCEMENT EXCEPT AS OTHERWISE SHOWN WHERE BARS ARE SPICED THERE SHALL BE 24 DIAMETERS LAP EXCEPT AS NOTED BELOW OR OTHERWISE SHOWN ON THE PLANS. ALL BARS HAVING MORE THAN 12" OF CONCRETE BENEATH THEM SHALL BE CAPPED 35 DIAMETERS.

CONSTRUCTION JOINTS, NO CONSTRUCTION JOINTS SHALL BE USED EXCEPT BY PERMISSION OF THE ENGINEER OR AS SHOWN ON THE PLANS.

FOUNDATIONS ABUTMENTS AND PIER TO BE SUPPORTED BY STEEL PILES 12 DP 53, CAPACITY = 60 TONS

DATUM:- USC & GS. BENCH MARK TOP OF MANHOLE RIM OF SANITARY SEWER, AT INTERSECTION OF WASHINGTON & KENTUCKY ELEV. = 27.95

GENERAL NOTES

DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES 9th EDITION, DATED 1965. STATE OF CALIFORNIA DIVISION OF HIGHWAYS, BRIDGE PLANNING & DESIGN MANUAL.

CONSTRUCTION SPECIFICATIONS: STANDARD SPECIFICATIONS STATE OF CALIFORNIA, DEPARTMENT OF PUBLIC WORKS, DIVISION OF HIGHWAYS, DATED JULY 1964, AND THE SPECIAL PROVISIONS.

DESIGN LOADING: AASHTO HS 20-44

CONCRETE: REINFORCED CONCRETE TO BE CLASS A.
 $f_c = 3250$ p.s.i. ULTIMATE COMPRESSIVE STRENGTH IN 28 DAYS.
 $f_c = 1300$ p.s.i.
 $n = 10$

PRESTRESSED CONCRETE: SEE NOTES ON SHEET S-6

UNLESS OTHERWISE NOTED, ALL EXPOSED CORNERS SHOWN SQUARE ON THE PLANS SHALL BE CHAMFERED 3/4"

REINFORCEMENT: ALL REINFORCING BARS SHALL BE ASTM A615 DEFORMED, BILLET STEEL, GRADE 60.
 f_y MIN. = 60,000 p.s.i., $f_s = 24,000$ p.s.i. (EXCEPT $f_s = 20,000$ p.s.i. IN SLABS AND WEB REINF.)



LEON RIMOV & ASSOCIATES
CONSULTING ARCHITECTS
ALBANY, CALIFORNIA

DE LEUW, CATHAR & COMPANY
CONSULTING ENGINEERS
SAN FRANCISCO, CALIFORNIA

REV.	DESCRIPTION	DATE	BY
AS-BUILT		3/3/71	B.U.

CITY OF PETALUMA

WASHINGTON STREET BRIDGE

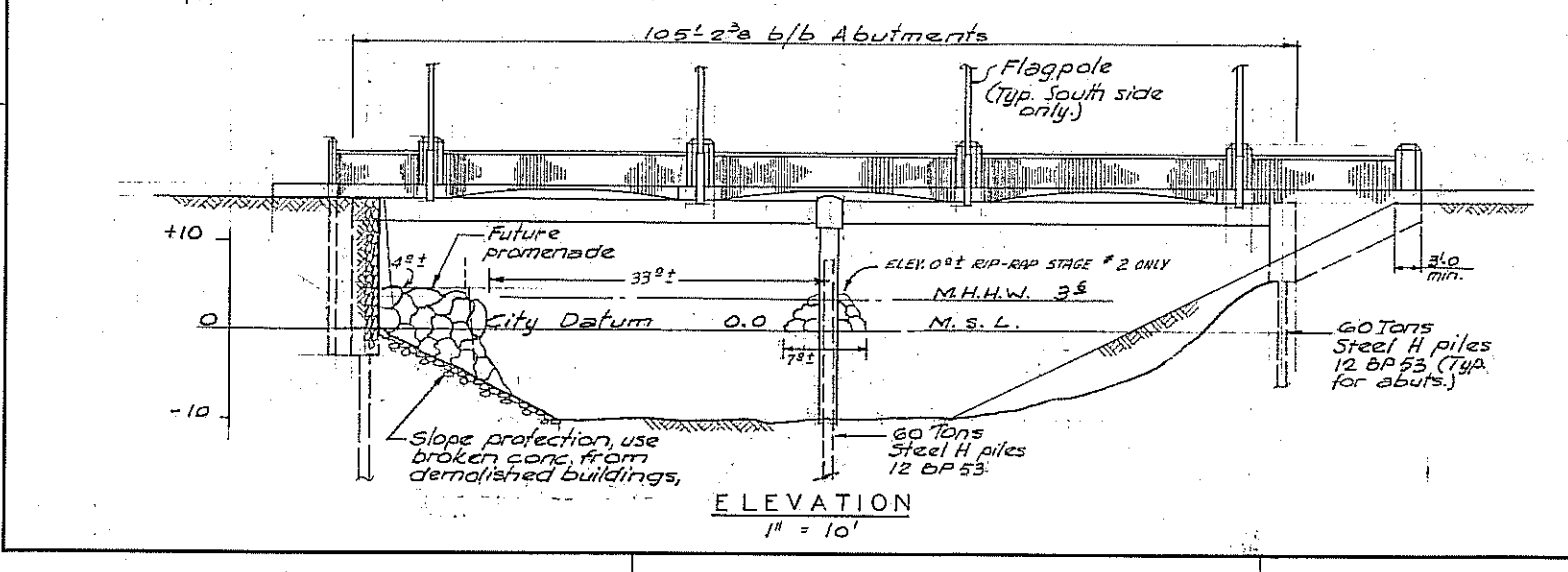
GENERAL PLAN & ELEVATION

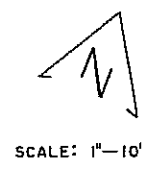
SCALE: AS NOTED

DATE: Nov. 1968

SHEET NO: 5-1

13

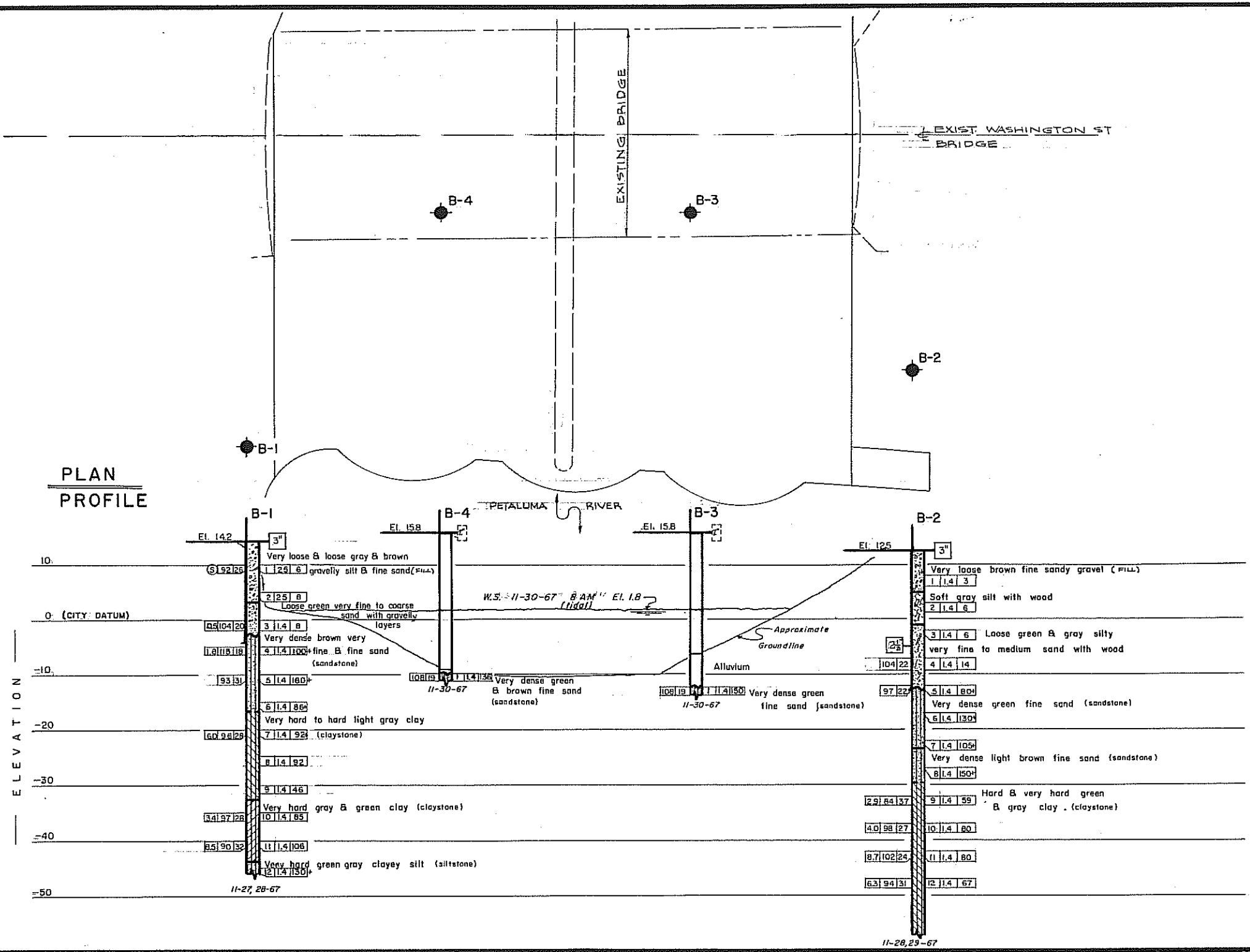




NOTE 1: T.B.M. U.S.E.D. Mon. 7
Near NE Corner Existing
Bridge — El. 13.6 MSL

NOTE 2: All Elev. Based on MSL.
Add 3.2' for MLLW

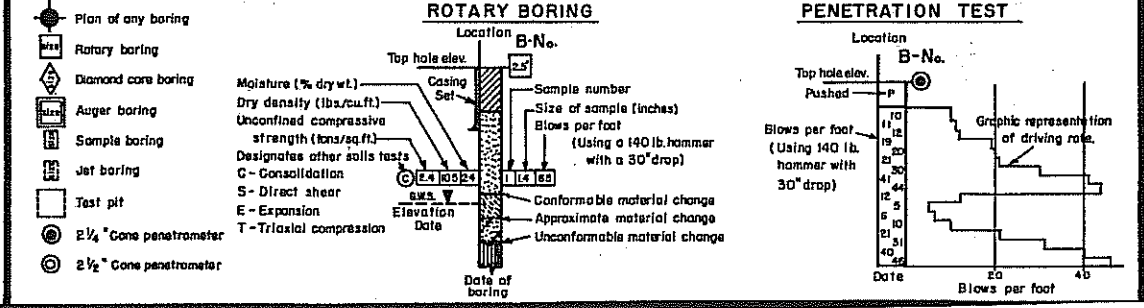
**PLAN
PROFILE**



LEGEND OF EARTH MATERIALS

UNIFIED SOIL CLASSIFICATION										MATERIAL SYMBOLS		CONSISTENCY CLASSIFICATION FOR SOILS																				
PI	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	GM	GP	GW	Gravel	Sand	Silt	Clay	Sandy clay or clayey sand	Silty clay or clayey silt	0-5	6-10	11-20	21-35	36-70	>70						
Highly organic soils	Sills and clays (Liquid limit greater than 50)		Sills and clays (Liquid limit less than 50)		Sands with fines (>12% fines)		Clean sands (<5% fines)		Gravels with fines (>12% fines)		Clean gravels (<5% fines)		Clean gravels (<5% fines)		Fill material	Shale	Sandstone	Limestone	Metamorphic rock	Igneous rock	Very loose	Loose	Semicompact	Compact	Dense	Very dense	Very soft	Soft	Stiff	Very stiff	Hard	Very hard

LEGEND OF BORING OPERATIONS



MOORE & TABER - Engineers-Geologists

APPROVED *H.R. Taber* 12-11-67
REGISTERED CIVIL ENGINEER No. 9165

JOB No. 5734 F

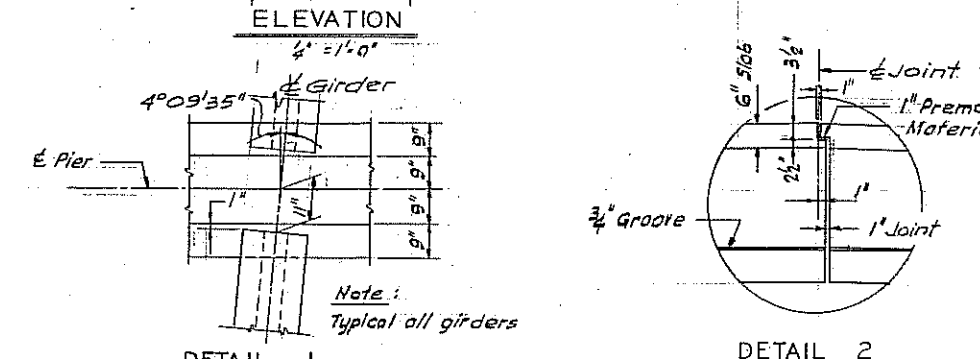
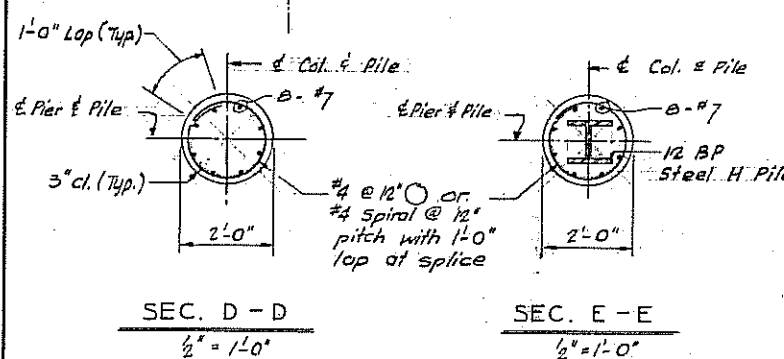
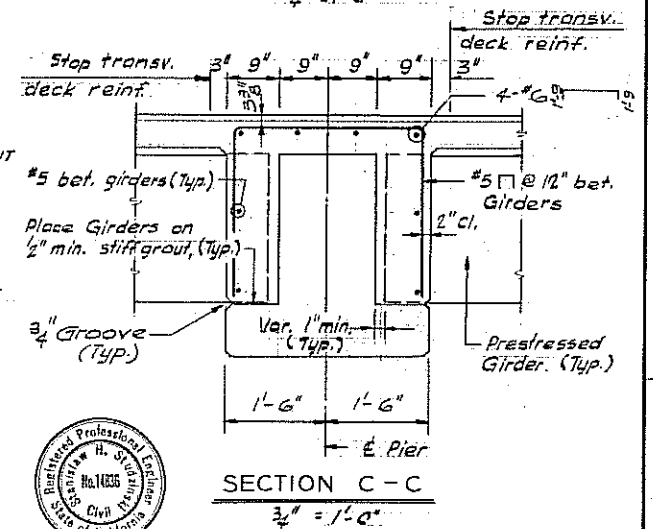
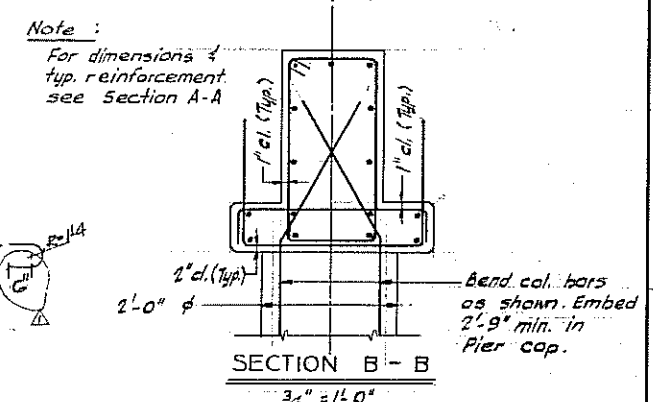
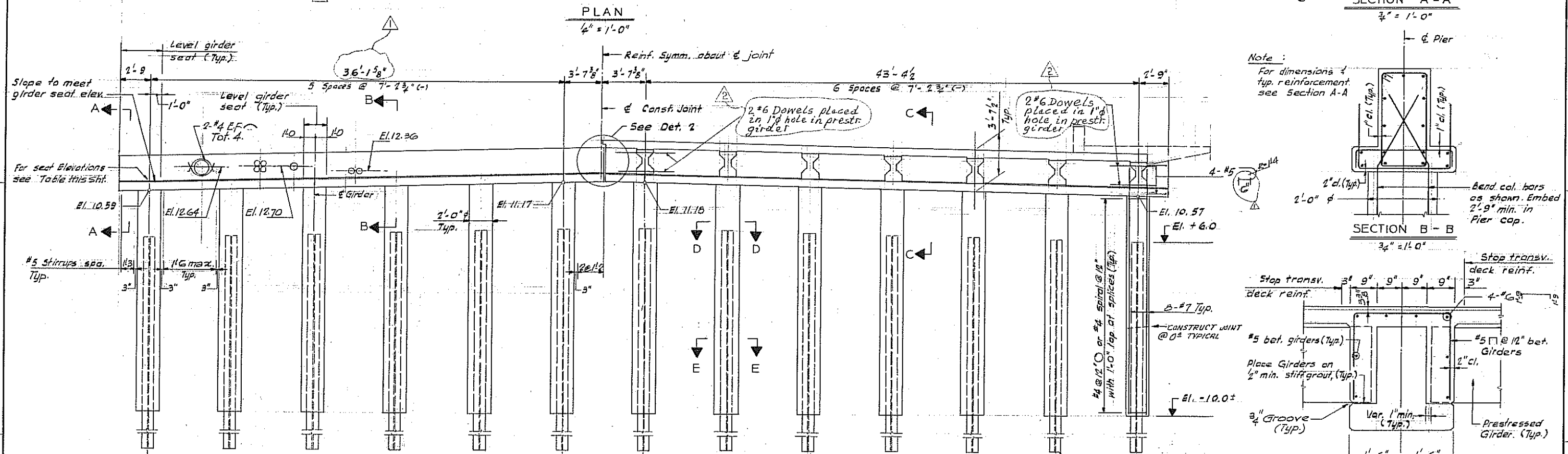
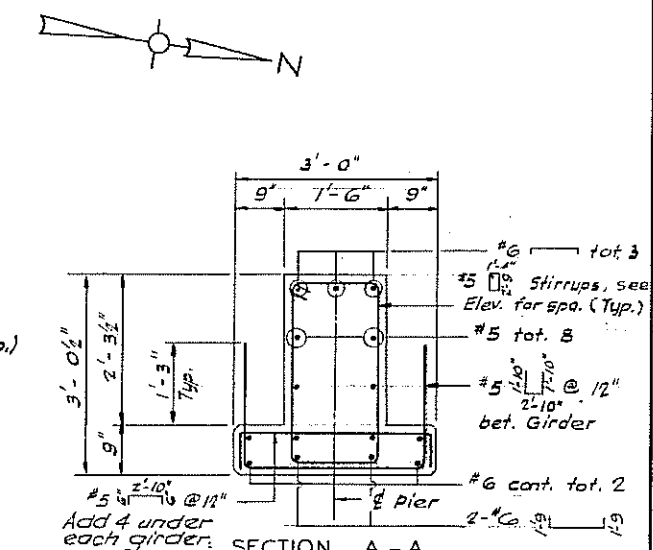
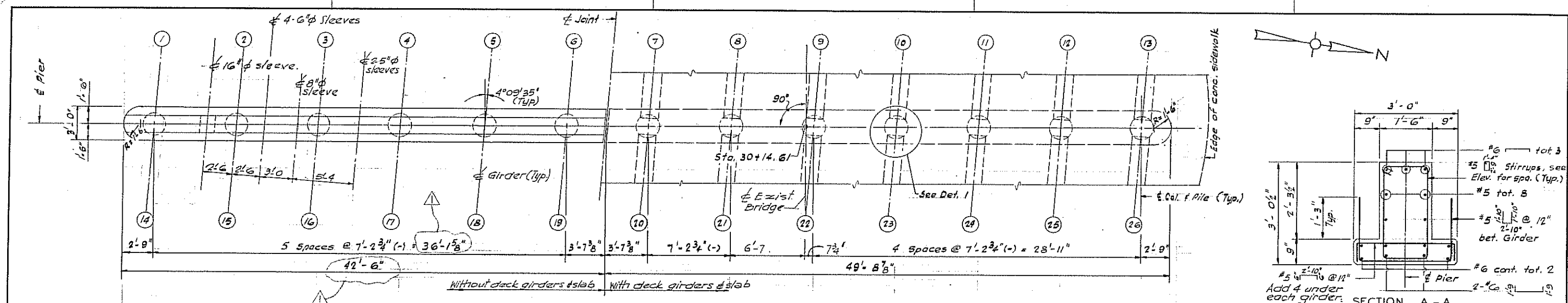
DE LEUW, CATHER & COMPANY
CITY OF PETALUMA

WASHINGTON STREET BRIDGE

LOG OF TEST BORINGS

Scale 1"=10' Date Dec. 1967 By *[Signature]* Check by *[Signature]* Drawing 5-2 14

5-126



GIRDER / ELEV.						
① 11.36	② 11.43	③ 11.59	④ 11.71	⑤ 11.82	⑥ 11.94	
⑦ 11.32	⑧ 11.44	⑨ 11.55	⑩ 11.67	⑪ 11.78	⑫ 11.90	
GIRDER / ELEV.						
⑬ 11.95	⑭ 11.85	⑮ 11.74	⑯ 11.64	⑰ 11.54	⑱ 11.44	⑲ 11.34
⑳ 11.91	㉑ 11.81	㉒ 11.70	㉓ 11.60	㉔ 11.50	㉕ 11.40	㉖ 11.30

GIRDER SEAT ELEVATIONS AS-BUILT		DATE	BY
3/17/61 R.L.	6/3/61 S.H.S.	5/6/61 R.D.L.	5/6/61 R.D.L.
REV.	DESCRIPTION	DATE	BY

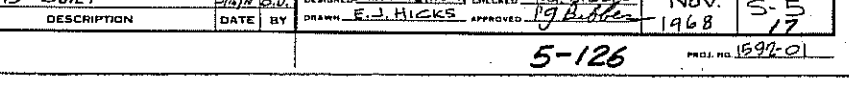
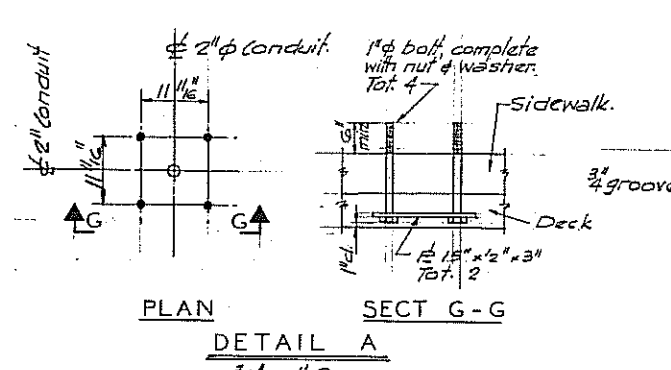
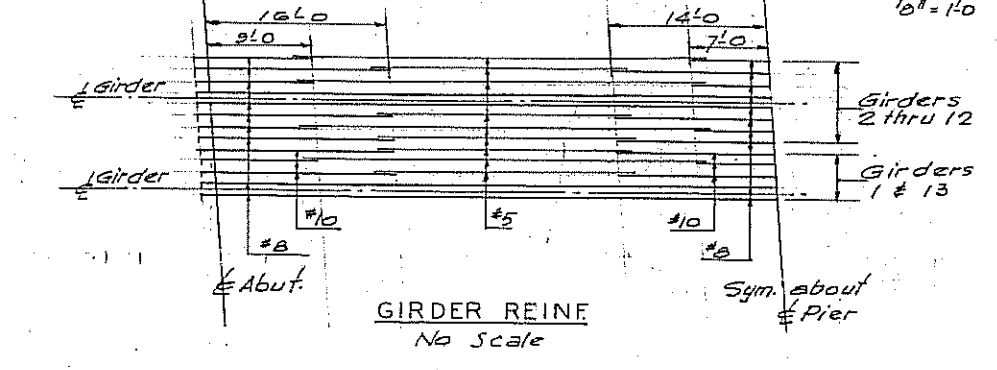
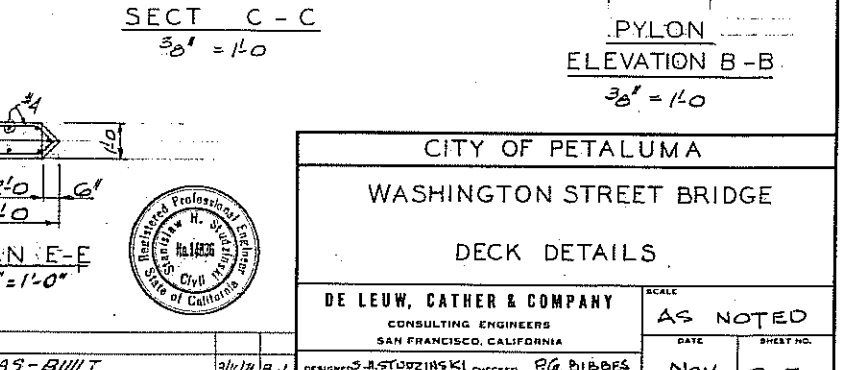
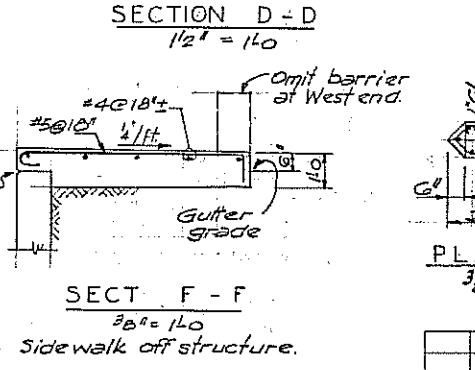
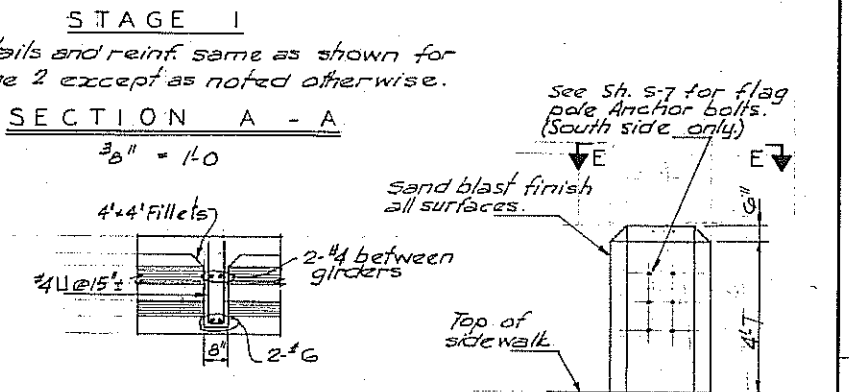
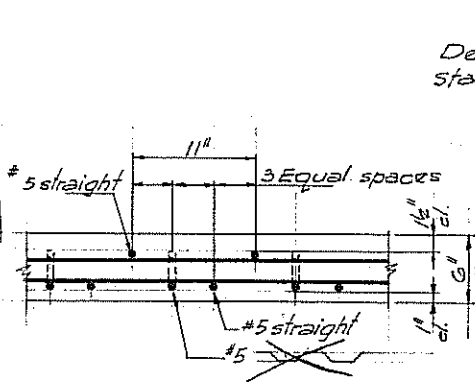
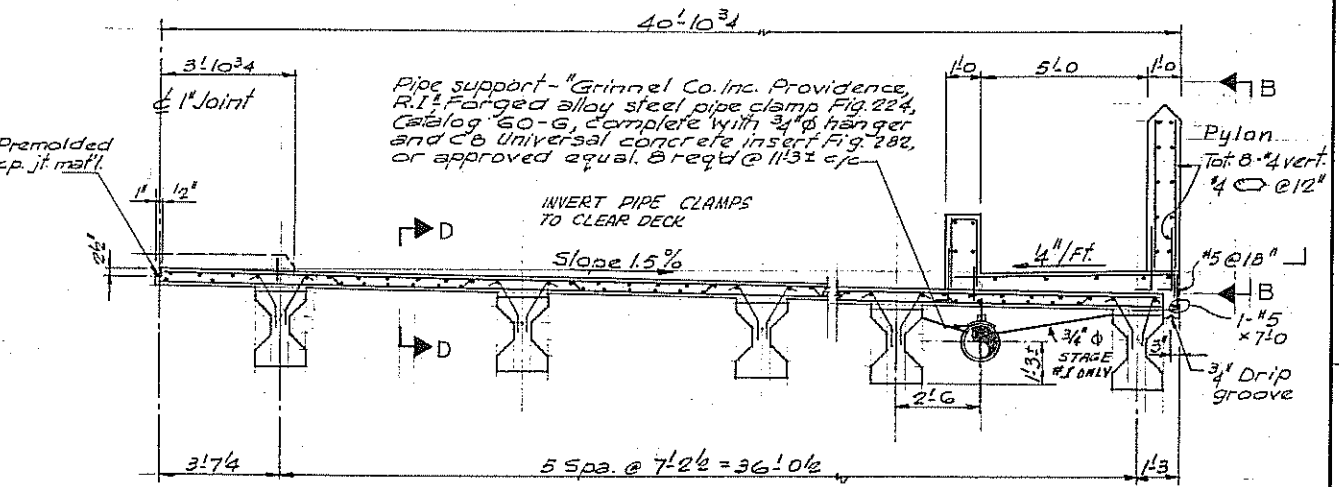
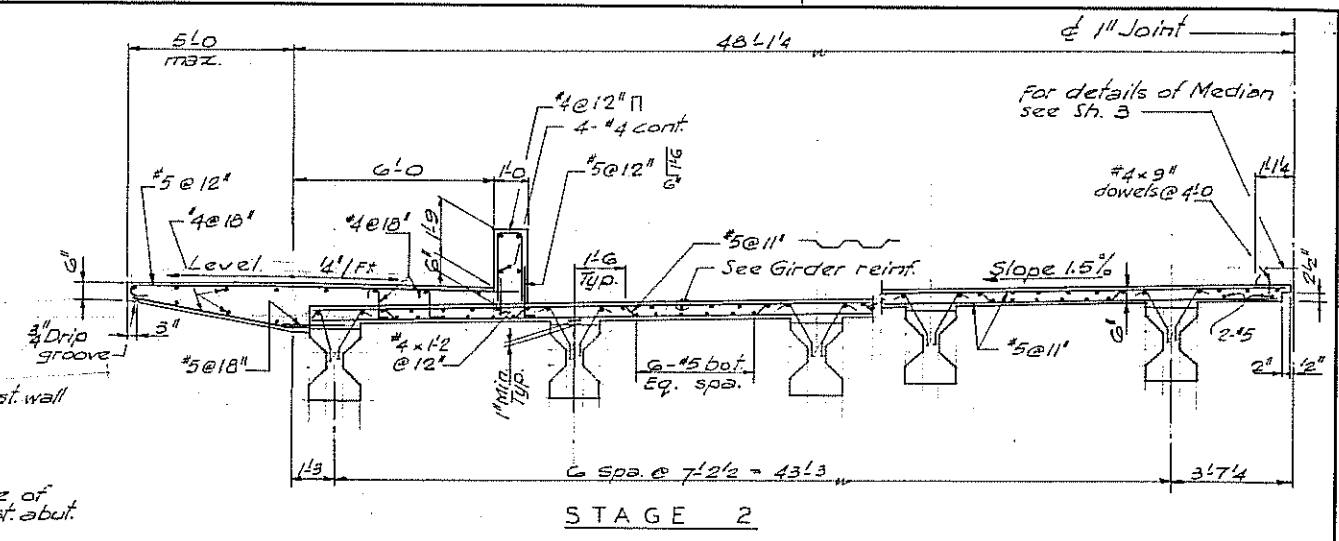
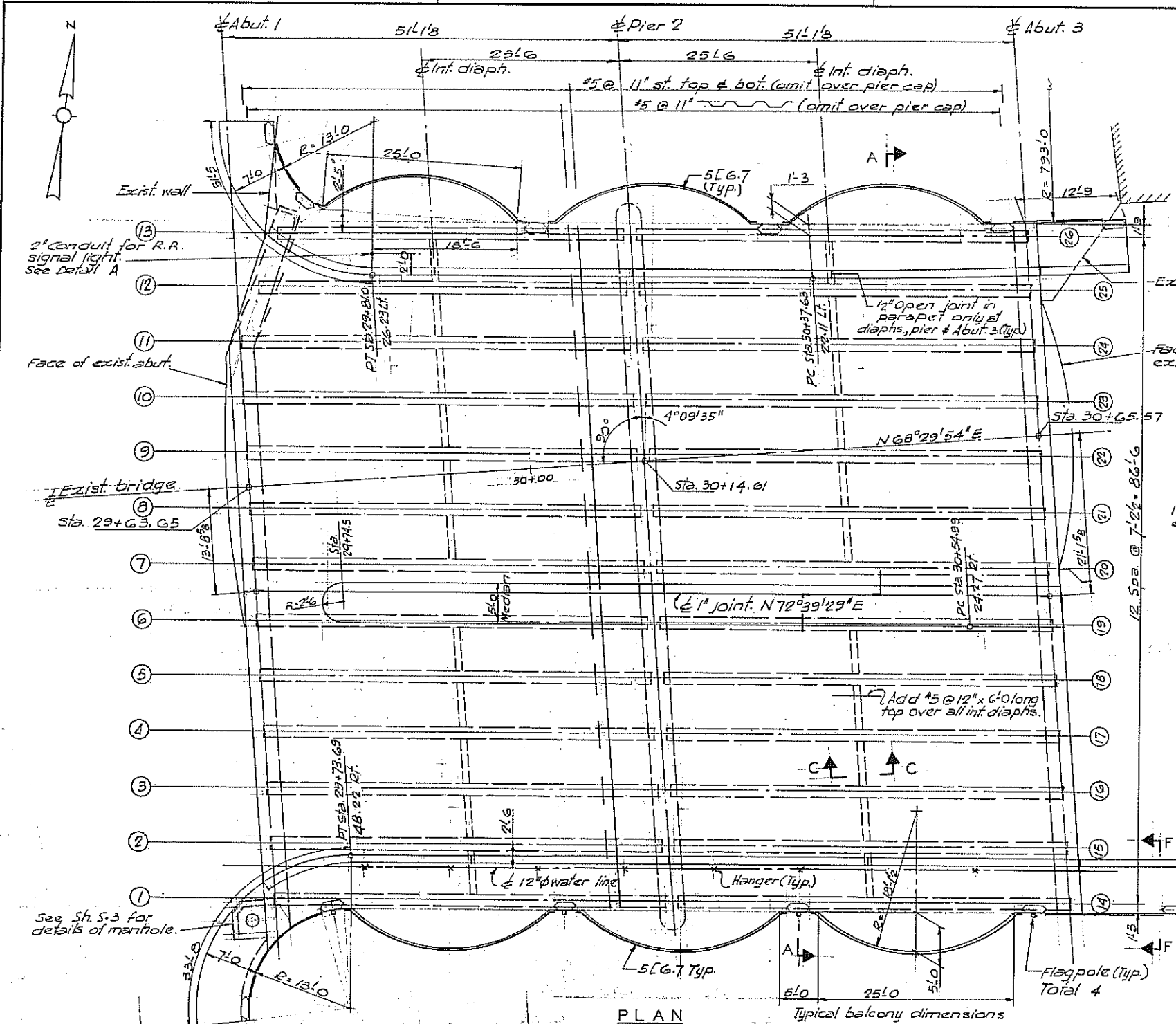


CITY OF PETALUMA
WASHINGTON STREET BRIDGE
PIER 2

DE LEUW, CATHER & COMPANY
CONSULTING ENGINEERS
SAN FRANCISCO, CALIFORNIA

SCALE: As Noted
DATE: Nov. 1968
SHEET NO: S-4

DESIGNED: M. S. ... CHECKED: D. G. ...
DRAWN: R. D. Lee APPROVED: P. G. ...



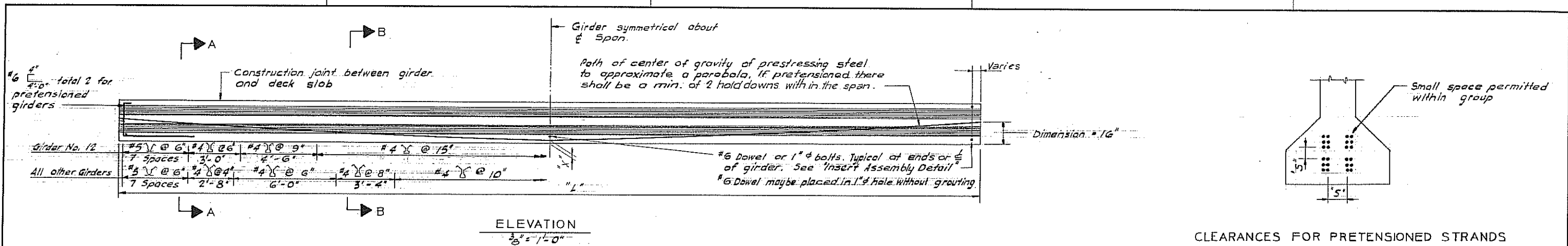
CITY OF PETALUMA
WASHINGTON STREET BRIDGE
DECK DETAILS

DE LEUW, CATHER & COMPANY
CONSULTING ENGINEERS
SAN FRANCISCO, CALIFORNIA

AS NOTED

NOV. 1968

5-126

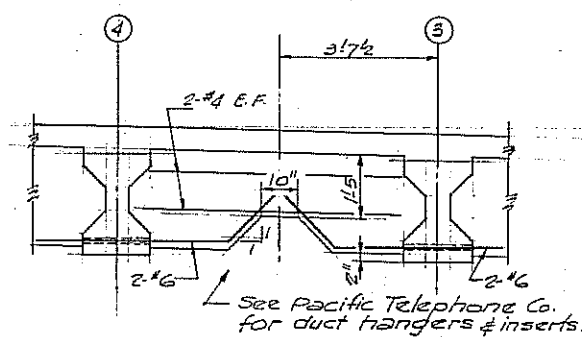
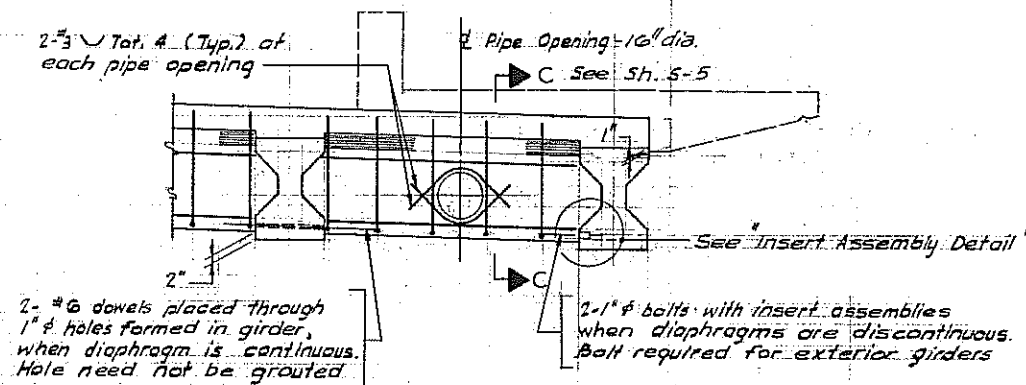
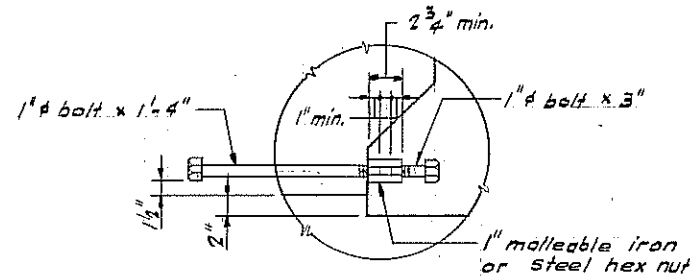
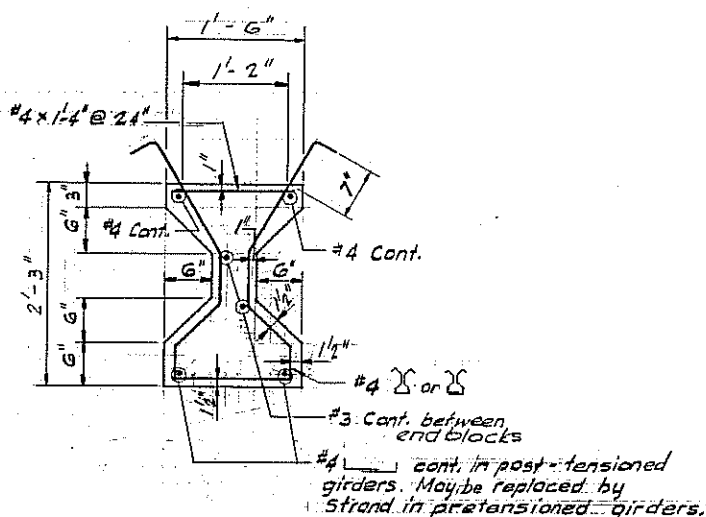
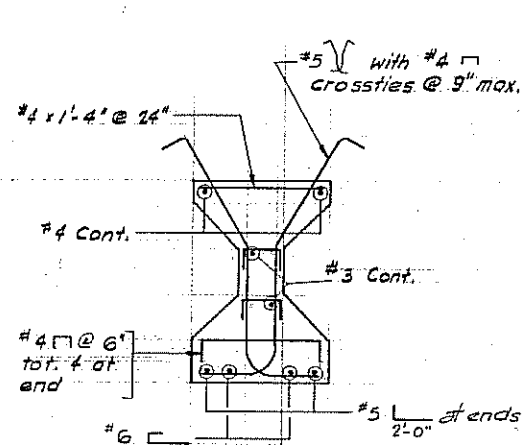


CLEARANCES FOR PRETENSIONED STRANDS

1. Strands may be bundled in groups consisting of 3 Vertically & 2 Horizontally, and Separated at the ends.
2. The minimum distance "5" between groups or individual strands is $\frac{1}{2}''$ for $\frac{3}{8}''$ strands, $\frac{3}{4}''$ for $\frac{7}{16}''$ strands and 2" for $\frac{1}{2}''$ strands.
3. "5" is measured between centers of adjacent strands.
4. Approval of the Engineer is required for deviation.

CLEARANCES FOR POST-TENSIONED UNITS

1. Horizontal clearance between units = $2\frac{1}{2}''$ min.
2. Units may be bundled vertically in groups of 3 max.
3. Vertical clearance between bundled units = 3" min.
4. Approval of the Engineer is required for deviation.



Girder No	"L"	P _f = Working force, lbs.	Concrete Strength				Deflection at $\frac{1}{2}$ Span due to CIP Slab	Camber @ $\frac{1}{2}$ Span		
			Post-ten	Pre-ten	Post-ten	Pre-ten				
		"X"	f'ci	f'c	f'ci	f'c				
12	47'-3 1/2"	5"	400 k	400 k	5200	5700	5000	5700	5/8"	-
13	44'-4 1/2"	4.5"	300 k	300 k	4000	4000	4000	4000	1/2"	-
All others	50'-2"	5"	445 k	445 k	5700	5700	5000	5700	3/4"	-

PRESTRESSING NOTES

Working Force: The force remaining per girder after all losses.

Concrete Strength: f'ci is at time of initial stressing, f'c is at 28 days, p.s.i.

Camber: Natural Camber only.

Creep: Will be determined by the Engineer.



CITY OF PETALUMA
WASHINGTON STREET BRIDGE
PRESTRESSED GIRDER

DE LEUW, CATHAR & COMPANY
CONSULTING ENGINEERS
SAN FRANCISCO, CALIFORNIA

SCALE: As Noted

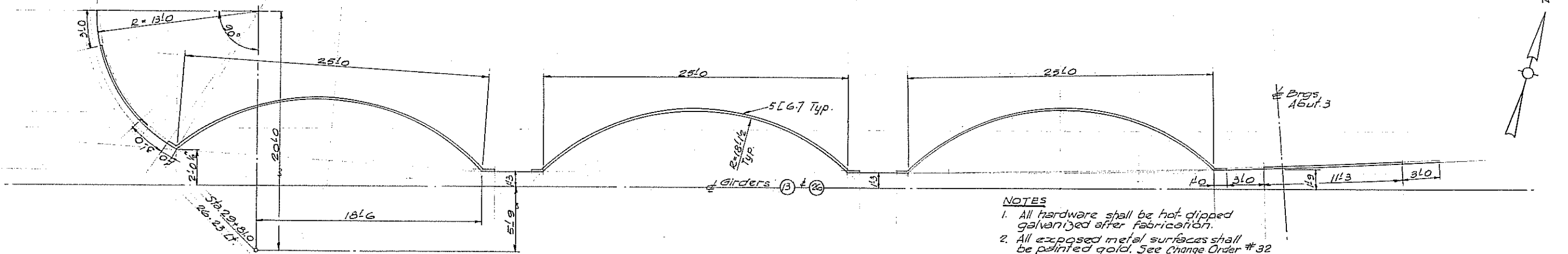
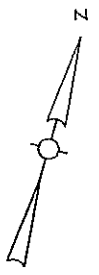
DESIGNED: S. A. Stewinski
CHECKED: R. A. Bibbes
DRAWN: R. A. Lee
APPROVED: P. J. Butler

Nov. 1968

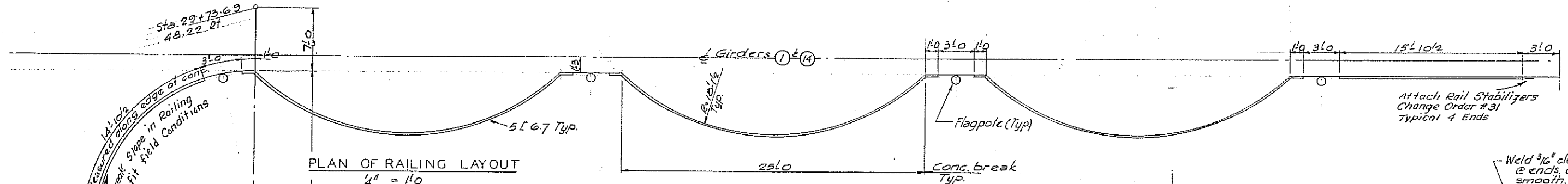
SHEET NO. 5-0
18

PROJ. NO. 1592-01

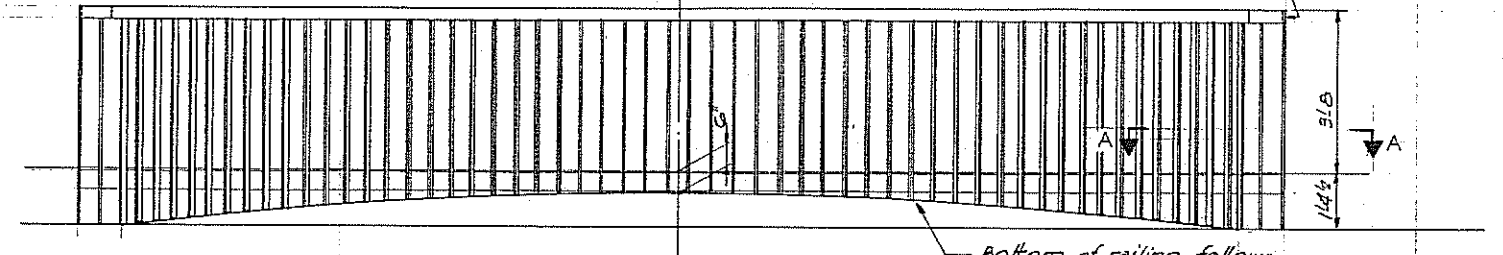
REV.	DESCRIPTION	DATE	BY
	AS-BUILT	5/21/68	B.V.



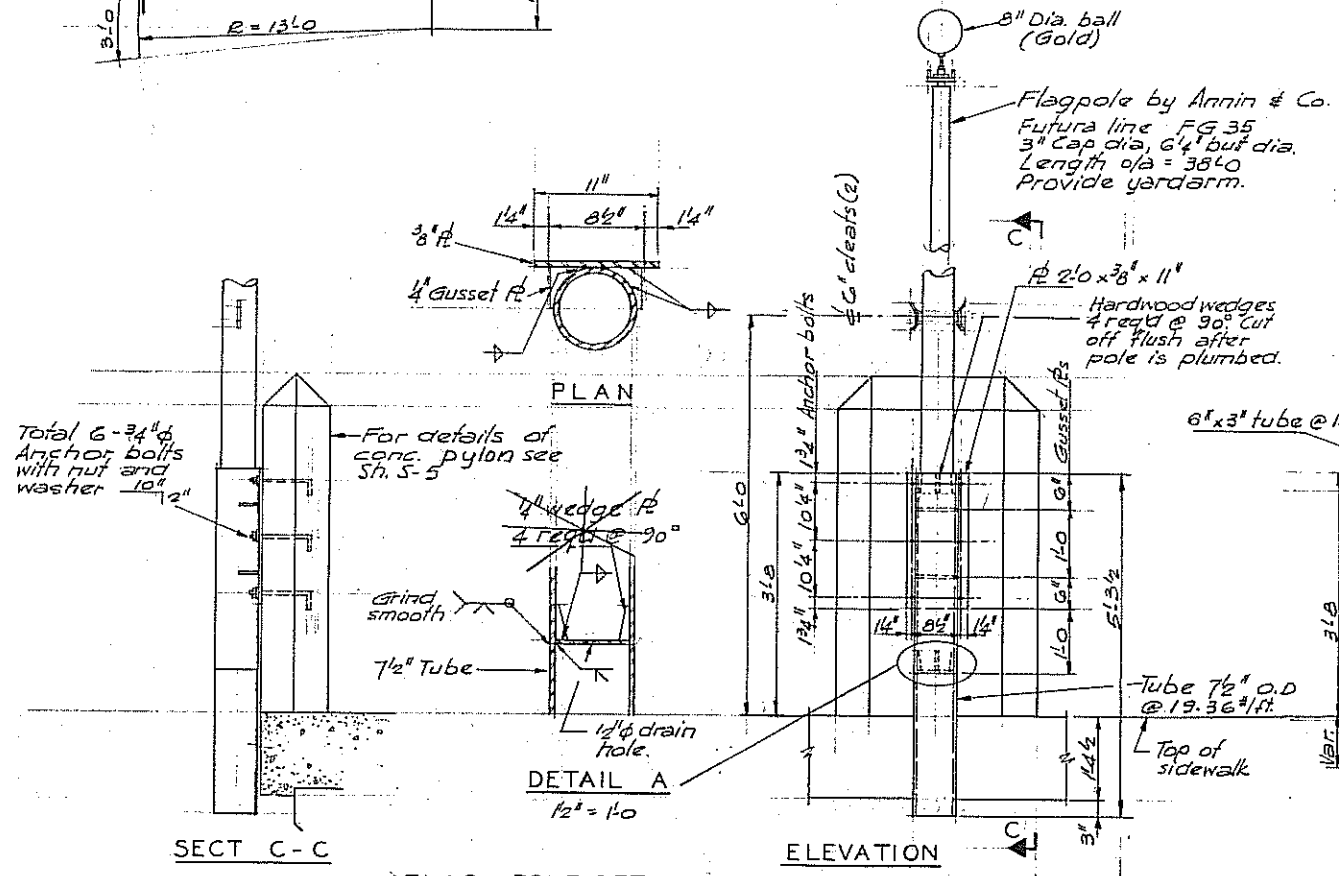
- NOTES**
1. All hardware shall be hot-dipped galvanized after fabrication.
 2. All exposed metal surfaces shall be painted gold. See Change Order #32



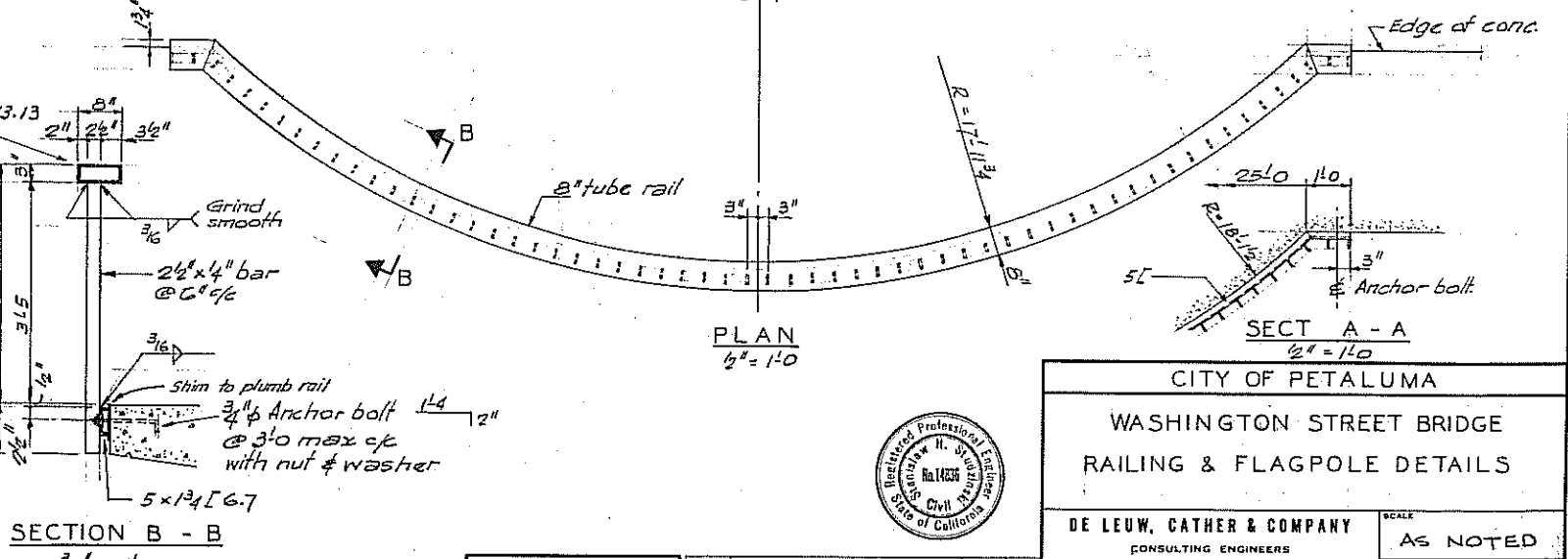
PLAN OF RAILING LAYOUT
1/2" = 1'-0"



RAILING ELEVATION
1/2" = 1'-0"



FLAG POLE DETAILS
3/4" = 1'-0"



SECTION A - A
1/2" = 1'-0"



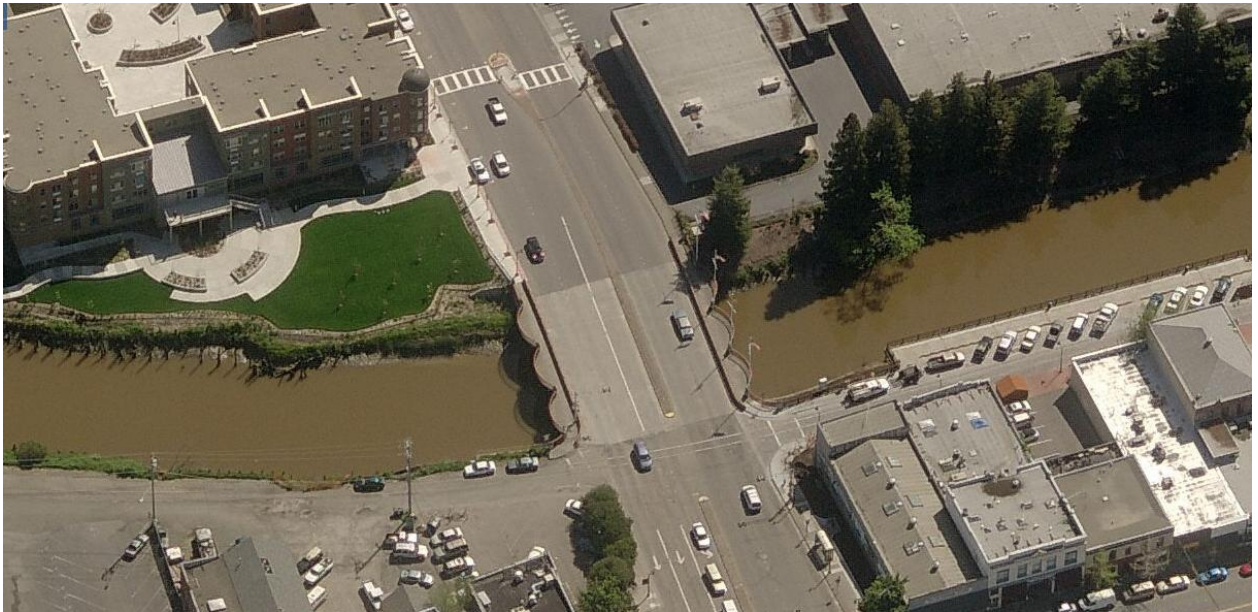
CITY OF PETALUMA
WASHINGTON STREET BRIDGE
RAILING & FLAGPOLE DETAILS

DE LEUW, CATHER & COMPANY		SCALE: AS NOTED	
CONSULTING ENGINEERS SAN FRANCISCO, CALIFORNIA		DATE	SHEET NO.
DESIGNED: S.H. STODZINSKI		CHECKED: R.A. GIBBES	NOV 1968
DRAWN: E.J. HICKS		APPROVED: J. RITTE	S-7

LEON RIMOV & ASSOCIATES	AS-BUILT	3/16/80	
CONSULTING ARCHITECTS ALBANY, CALIFORNIA	REV.	DESCRIPTION	DATE BY

APPENDIX H: SITE PHOTOGRAPHS

Aerial Photos



Looking West



Looking South

Bridge Elevation



Looking South

Bridge Bent



Columns 1 to 10



Columns 13 to 7

West End of Bridge



Abutment 1 – north side



Retaining wall – north side



Retaining wall – south side

East End of Bridge



Abutment 3 – north side



Remains of old abutment at wingwall



Fence under bridge



ATTACHMENT I

CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION
DETERMINATION FORM (rev. 11/2020)

Project Information

Project Name (if applicable): Washington St. Bridge Seismic Retrofit

DIST-CO-RTE: 04-SON-0-PET

PM/PM:

EA: **Federal-Aid Project Number:** BHLS-5022 (050)

Project Description

The City of Petaluma proposes to conduct seismic retrofit work on the Washington Street over Petaluma River Bridge in the City of Petaluma in Sonoma County. The work proposed will consist of the installation of concrete frames with cast-in-drilled-hole (CIDH) piles and a concrete pile cap behind the existing abutments. No work within the river channel is proposed. All work will be conducted within the City's right-of-way.

Caltrans CEQA Determination (Check one)

- Not Applicable** – Caltrans is not the CEQA Lead Agency
- Not Applicable** – Caltrans has prepared an IS or EIR under CEQA

Based on an examination of this proposal and supporting information, the project is:

- Exempt by Statute.** (PRC 21080[b]; 14 CCR 15260 et seq.)
- Categorically Exempt. Class** Enter class. (PRC 21084; 14 CCR 15300 et seq.)
 - No exceptions apply that would bar the use of a categorical exemption (PRC 21084 and 14 CCR 15300.2). See the [SER Chapter 34](#) for exceptions.
- Covered by the Common Sense Exemption.** This project does not fall within an exempt class, but it can be seen with certainty that there is no possibility that the activity may have a significant effect on the environment (14 CCR 15061[b][3].)

Senior Environmental Planner or Environmental Branch Chief

Print Name	Signature	Date
------------	-----------	------

Project Manager

Print Name	Signature	Date
------------	-----------	------



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

Caltrans NEPA Determination (Check one)

Not Applicable

Caltrans has determined that this project has no significant impacts on the environment as defined by NEPA, and that there are no unusual circumstances as described in 23 CFR 771.117(b). See SER Chapter 30 for unusual circumstances. As such, the project is categorically excluded from the requirements to prepare an EA or EIS under NEPA and is included under the following:

23 USC 326: Caltrans has been assigned, and hereby certifies that it has carried out the responsibility to make this determination pursuant to 23 USC 326 and the Memorandum of Understanding dated April 18, 2019, executed between FHWA and Caltrans. Caltrans has determined that the project is a Categorical Exclusion under:

- 23 CFR 771.117(c): activity (c)(28)
23 CFR 771.117(d): activity (d)(Enter activity number)
Activity Enter activity number listed in Appendix A of the MOU between FHWA and Caltrans

23 USC 327: Based on an examination of this proposal and supporting information, Caltrans has determined that the project is a Categorical Exclusion under 23 USC 327. The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated December 23, 2016 and executed by FHWA and Caltrans.

Senior Environmental Planner or Environmental Branch Chief

Thomas Holstein Signature Date 5 May 2021

Project Manager/ DLA Engineer

Jae-Myung Lee Signature Date 5/5/2021

Date of Categorical Exclusion Checklist completion: N/A
Date of Environmental Commitment Record or equivalent: 05/04/21

Briefly list environmental commitments on continuation sheet if needed (i.e., not necessary if included on an attached ECR). Reference additional information, as appropriate (e.g., additional studies and design conditions).



CEQA EXEMPTION / NEPA CATEGORICAL EXCLUSION DETERMINATION FORM

Continuation sheet:

Environmental Commitments

The Local Assistance NEPA Permits & Environmental Commitment Record is based on the required technical studies and analyses as follows:

Noise

Noise Technical Memorandum dated March 23, 2020

Biology

National Marine Fisheries Service Concurrence Letter dated April 21, 2021

Water Quality

Water Quality Technical Memorandum dated April 26, 2021

Community Impact

Land Use and Community Impact Technical Memorandum dated April 13, 2020

Traffic

Traffic Technical Memorandum dated March 23, 2020

Equipment Staging

Equipment Staging Technical Memorandum dated March 23, 2020

Local Assistance NEPA Permits & Environmental Commitment Record

Project Name	Washington St. Bridge Seismic Retrofit	Name of Local Agency	City of Petaluma
Federal Aid Number	BHLS-5022 (050)	Local Agency Contact and Phone	Jonathan Sanglerat, P.E. (707) 292-2772

Project Description To conduct seismic retrofit work on the Washington Street over Petaluma River Bridge here in the City of Petaluma, Sonoma County. The work proposed will consist of the installation of concrete frames with cast-in-drilled-hole (CIDH) piles and a concrete pile cap behind the existing abutments. No work within the river channel is proposed. The maximum excavation will not exceed about 50 feet to accommodate the CIDH piles adjacent to the existing abutments.

PERMITS REQUIRED	DATE OF PERMIT	DATE RECEIVED BY CALTRANS

CALTRANS SITE VISIT – DATE	PERSONNEL

NOTE: This following table is intended as a summary guide to environmental commitments. It does not replace or supercede any environmental commitments made in technical studies or correspondence prior to NEPA clearance. If there are any discrepancies between this table and technical studies/correspondence then the technical studies/correspondence take precedence

Task and Brief Description	Document	Page	Timing/Phase	Specific Action(s) Taken to Comply with Task	Local Agency Certification of Task Completion		Remarks
					Initial	Date	
The staging area will be located on an existing asphalt or concrete surface area. No staging area will be allowed on undeveloped lots. The staging area will be included in the Contractor's SWPPP. The staging area will not be located in an environmentally sensitive area and/or impact water resources (such as: rivers, streams, bays, inlets, lakes, and drainage sloughs). The staging area will not be located in a regulatory floodway	Equipment Staging Tech Memo	2	Plans & Specs				

or within the base floodplain (100-year). The staging area will not affect access to properties or roadways.							
The SWPPP shall, at a minimum, include Best Management Practices (BMPs), to address the following: housekeeping, waste containment and control, minimizing disturbed areas, stabilize disturbed areas, protect slopes and channels, control site perimeter, control of internal erosion, disposal of storm water and ground water, sediment control, liquid waste management, concrete waste management, hazardous waste management, employee and subcontractor training, vehicle and equipment fueling and maintenance, spill prevention and control, contaminated soil management, sawcutting, paving and asphalt work, and street cleaning.	Water Quality Tech Memo, NMFS LOC	2; 2&3	Plans & Specs				
Work shall only be performed Monday Through Friday from 7 am to 5 pm and be within the limit of the noise exposure identified in Table 1 (Maximum Exterior Noise Exposure) of the City's noise regulation ordinance 2049.	Noise Tech Memo	2 through 8	Plans & Specs				
Advanced notice of lane closures will be given to the transit operators and emergency vehicles 72 hrs. advance of any lane closures. Access will always be provided for both transit and emergency vehicles through the construction zone.	Traffic Tech Memo	2	Pre-Construction				
Notification to all the residents and businesses within the general vicinity of the Washington Street Bridge project prior to construction.	Land Use and Community Impact Tech Memo	2	Pre-Construction				
Temporary high-visibility fence (THVF) installed along the Environmentally Sensitive Area (ESA), which contains Alkali Bulrush vegetation.	NESMI	40	Pre-Construction				
The feasibility of using vertical cut-off walls or other means of limiting groundwater inflows into the proposed excavations to avoid dewatering or minimizing the volume of dewatering needed during construction, will be evaluated.	NESMI	43	Pre-Construction				
Access routes and boundaries will be clearly marked prior to initiating ground disturbance.	NESMI	44	Pre-Construction				
If construction activities commence during bird nesting season (February 1 to September 30),	NESMI	58	Pre-Construction				

preconstruction surveys for nesting migratory birds will be conducted by a qualified biologist no more than 72 hours prior to commencing construction activities.							
Place temporary parking removal 72hr advance signing and notice to the Petaluma Police Department.	Traffic Tech Memo	2	Pre/During Construction				
One lane of traffic in each direction will remain open at all times.	Traffic Tech Memo	2	During Construction				
During construction bicyclist would continue to share the road with motorists and additional signage per MUTCD would be required to remind motorist to share the road. MUTCD signage should include share the road signs.	Traffic Tech Memo	2	During Construction				
Nightwork, between the hours of 8 PM to 6 AM, may be allowed with approval from the City.	Traffic Tech Memo	2	During Construction				
Work in areas containing vegetation will be minimized to the maximum extent practicable. Existing vegetation, including trees, shrubs, and herbs, would be preserved in place.	NESMI	40	During Construction				
Dewatering/discharge pipes, if needed, will not be placed within alkali bulrush (i.e., saline emergent wetland) vegetation on the eastern bank of the Petaluma River to the north of the existing bridge.	NESMI	40	During Construction				
No discharge of pollutants from vehicles and equipment cleaning will be allowed into the storm drain or water courses.	NESMI	44	During Construction				
Work will occur during the dry season work window June 15th through October 31st.	NMFS LOC	2	During Construction				
Dewatering of groundwater would be performed without discharging to the Petaluma River by collecting water in temporary holding tanks (or similar containment structures) and off-hauling to a treatment facility	NMFS LOC	2	During Construction				
Store hazardous material at least 100 feet from aquatic habitats and storm drain outlets.	NMFS LOC	2	During Construction				
All disturbed slopes and recently graded areas will be protected from erosion using a combination of silt fences, biodegradable fiber rolls along the toe of slopes or along edges of designated staging areas, and erosion-control biodegradable netting such as jute or coir, as	NMFS LOC	3	During Construction				

appropriate. Biodegradable fiber rolls will be installed along or at the base of slopes during construction to capture sediment, and temporary organic hydromulching will be applied to all unfinished disturbed and graded areas.							
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