MARIN COMMUNITY COLLEGE DISTRICT

Request for Proposals and Qualifications ("RFP")

For Design-Build Services

Bill and Adele Jonas Center, Building 18 Alterations
Indian Valley Campus, Novato CA

#17/18-MB9

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1.0 RECEIPT OF PROPOSALS

1.1 On March 20, 2018, the Marin Community College District ("District" or "College of Marin") will receive sealed Proposals at the District's office: Fiscal Services Office, Building 8, 1800 Ignacio Boulevard, Novato, CA 94949.
PLEASE NOTE: United Parcel Service (UPS) DOES NOT DELIVER TO THIS ADDRESS

Proposals shall be accepted between 12:00 p.m. and 2:00 p.m. only as determined by time and date stamp clock at the District's office. All Proposal envelopes will be time-stamped to reflect their submittal time. District will reject all Proposals received after the specified time and will return such Proposals to Design-Build Entities unopened. Design-Build Entities must submit Proposals in accordance with this this RFP.

2.0 INTRODUCTION

The College of Marin, acting through its Governing Board, is seeking proposals from Design Build Entities (Proposers) to provide design and construction services for the project referenced above (Project). District will select a design-build entity team consisting of a general contractor, architect, key sub consultants, and key trade contractors (collectively the "Design-Build Entity" or "DBE") based on qualifications and proposed fees.

2.1 Informational Summary.

The provisions of this Section 2.1 are intended to summarize for Proposers the process that the District intends to follow in respect to issuance of this Request for Proposals and Qualifications ("RFP"), consideration of Design-Builder Proposals from Pre-Qualified Design-Build Entities (sometimes "DBE") and Award of the Design-Build Contract. This summary is provided for the convenience of Proposers and should not be interpreted as a complete or definitive statement of all procedures, conditions, requirements or standards that may apply to any of the aforementioned processes and the District reserves the right, at any time and in the exercise of its sole and absolute discretion, to modify such procedures, conditions, requirements or standards, by changes, additions or deletions thereto.

2.2 Phase Design-Build

The process for Award of the Design-Build Contract will be based on the proposal that best addresses the Criteria Documents based on the evaluation that will be conducted under this RFP. The evaluation will be done in one phase with simultaneous processes occurring. Process 1 (the Pre-Qualification Process) consists of the Pre-qualification of a "short-list" of three (3) Pre-Qualified Design-Build Entities (unless there are four (4) or fewer Proposers, in which case fewer than three (3) Pre-Qualified Design-Build Entities may be selected) who, based on the scoring by District's Pre-Qualification Selection Committee of their responses and other information provided in response to the RFP, are determined to be the most qualified to design and construct the Project. The procedures and forms for Pre-Qualification are set forth in this RFP, of which these Instructions are a part. Each of the Pre-Qualified Design-Build Entities on this "short-list" of Pre-Qualified Design-Build Entities will be notified and interviewed. Process 2 (the RFP Selection Process) is the process for final selection from among the Pre-Qualified Design-Build Entities, following the interview. Only one Proposer will receive the Award of the Design-Build Contract. Selection of the successful Design-Build Entity in

Phase 2 shall be based upon the pre-established criteria set forth in this RFP, which shall include both cost and non-cost factors. Award of the Design/Build Contract shall be made to that Proposer whose Design-Builder Proposal is determined by the District to be overall the best value to the District.

2.3 Experience.

Credit for experience is one or more of the non-cost evaluative factors in the design-build evaluation and shall be based only on design-build experience and California school design and construction experience.

2.4 Award.

The Board of Trustees for the District will Award the Design-Build Contract to the successful Design-Build Entity stating the basis of the Award. The identity of the successful Design-Build Entity shall be publicly announced, along with its overall combined rating on the Proposal, the District's ranking of the successful Design/Build Entity in relation to the other Pre-Qualified Design-Build Entities to whom the Request for Proposal was issued and their respective proposals, and a summary of the District's rationale for the Award.

2.5 Delivery Method Design-Build Contract.

The delivery method for this Project is Design-Build with two phases: Phase 1, Design and Preconstruction Services, and Phase 2, Construction Services.

There will be a separate Notice to Proceed (NTP) for each phase. Phase 1 will begin with contract award. Phase 2 will begin once the Guaranteed Maximum Price (GMP) has been accepted by the District and after execution of the GMP Addendum, approximately 30 days after DSA approval of the construction documents has been obtained.

District is not obligated to proceed with Phase 2, or with the selected DBE. DBE is not obligated to proceed with Phase 2 if the District and DBE are unable to agree upon a GMP. Work products and electronic files of DBE are the property of the District. In the event the District and the DBE do not continue into Phase 2, these documents may be used by the District in any manner, including use for subsequent contracts.

A copy of the proposed Design-Build Contract that the District contemplates issuing to the successful Design-Build Entity is attached hereto as Attachment No. 1. District reserves the right, exercised in its sole discretion, at any time prior to Award to unilaterally change, by addition, modification or deletion, any of the terms of the Design-Build Contract in accordance with the procedures therefore set forth in the RFP Documents.

2.6 Proposal Bond, Payment and Performance Bonds, Insurance.

Each short-listed Design-Build Entity for the Project shall be required, without limitation, to deliver to the District a Proposal Bond as security to ensure that the successful Design-Build Entity will, if it receives the Award, enter into the Design-Build Contract and deliver the other Post-Award Submittals required by the RFP Documents. Additionally, the Design-Build Entity that is selected for Award of the Design-Build Contract shall possess and be required to submit evidence of: (1) sufficient bonding

to cover the full contract price for non-design services utilizing bond forms that are consistent with the bond forms developed by the Department of General Services pursuant to subdivision (i) of Section 14661 of the California Government Code; (2) errors and omissions insurance coverage sufficient to cover all design and architectural services required by the Design-Build Contract; and (3) all other insurance coverage as required to be provided by the Design-Builder under the terms of the Design-Build Contract.

2.7 Subcontractors.

All subcontracts with Subcontractors who are not Design-Build Entity Members of the successful Design-Build Entity shall be awarded by the successful Design-Build Entity in accordance with the process set forth in this RFP and shall provide for public notice of the availability of work to be subcontracted, a fixed date and time on which the subcontracted work will be awarded and shall afford to the Subcontractors the protections contained in Chapter 4 (commencing with Section 4100) of Part 1 of Division 2 of the Public Contract Code.

2.8 Labor Compliance.

The successful Design-Build Entity to whom the Award of the Design-Build Contract is made will be required to comply with all of the applicable provisions of the California Labor Code (including, without limitation, payment of prevailing wages, maintenance and submission of weekly certified payrolls and hiring of apprentices).

2.9 Interested Parties.

General Contractors and Architects of Record will be allowed to participate in this RFP process in any capacity, either as Design-Build Entity Members or as Subcontractors or Subconsultants, to more than one Design-Build Entity. Consultants or Subconsultants to the District who (1) are participants or advisors to the District or College in respect to the design-build competition for the Project, or (2) provide professional services and advice to the District or College in respect to any other project being proposed for construction, or under construction, at the campus of the College, shall be allowed to participate as a Design-Build Entity Member or as a Subconsultant or Subcontractor, of any Tier, to a Design-Build Entity; provided such General Contractors and/or Architects of Record have not been involved in any way in the preparation of this RFP.

2.10 RFP Submittals.

Design-Builder Proposals shall include, without limitation, any completed additional schematic plans as needed (including elevations, layouts and a site plan), an electronic three-dimensional model, and one colored rendering.

2.11 Discussions, Negotiations and Limited Negotiations.

The District reserves the right, but shall not have the obligation, as part of the RFP process to hold Discussions, Negotiations and/or Limited Negotiations with, and/or to request Best and Final Offers from, those short-listed Pre-Qualified Design-Build Entities. Procedures for Discussions, Negotiations, Limited Negotiations and Best and Final Offers shall be set forth in instructions issued to Proposers in in an addendum to this RFP.

2.12 Confidentiality and Ownership of Proposals.

Save and except as otherwise provided in the final sentence of this Paragraph 2.12, all Design-Builder Proposals and other design materials, rendering, models and other information submitted by Proposers shall be deemed the sole and exclusive property of the Proposer and all copyrights thereto shall be held by the Proposer Save and except as otherwise provided in the final sentence of this Paragraph 2.12, the District shall make reasonable efforts, consistent with Applicable Laws, to maintain confidentiality of any portions of a Design-Builder Proposal that the Proposer clearly marks as "PROPRIETARY" in accordance with the terms of the RFP Documents. Nothing contained herein shall be interpreted as establishing or creating any obligation on the part of the District to refrain from disclosing and discussing with any or all competing Proposers information or designs contained in a Design-Builder Proposal that constitute designs, details, design approaches or construction means, methods, techniques or procedures that are generic or that otherwise constitute matters of general knowledge within the construction industry; provided, however, that the District shall refrain at all times during the RFP process and prior to Award of the Design-Build Contract from attributing such generic information or matters of general knowledge to a particular competing Proposer or Design-Build Proposal. The above stated obligations of the District with respect to maintaining the confidentiality of Design-Builder Proposals shall constitute the District's sole and exclusive obligation of confidentiality, in lieu of any other obligations under Applicable Laws, to any Proposer with respect to the matters contained within its Design-Builder Proposal. Notwithstanding the foregoing, Design-Builder Proposals and other design materials, rendering, models and other information submitted by the Proposer who receives the Award of the Design-Build Contract shall, upon Award and at all times thereafter in perpetuity, be: (1) the sole and exclusive property of the District; (2) all copyrights thereto shall be deemed assigned to and held by the District; and (3) the Proposer shall retain no property, copyright or other proprietary rights with respect thereto.

2.14 Changing of Team Members.

No changes in or additions to Design-Build Entity Members or to the list of Subconsultants or Subcontractors that have been pre-qualified pursuant to the District's Pre-Qualification process for the Project shall be permitted after the deadline in the RFP Schedule for submission of Design-Builder Proposals, except with the prior written authorization of the District which authorization may be granted or withheld in the District's sole discretion. By way of example and without limitation to the foregoing, any person or entity who is either (1) a Design-Build Entity Member, or (2) a Subconsultant or Subcontractor that has been pre-qualified for the Project pursuant to the District's Pre-Qualification process, shall not be "switched out" or substituted with other persons or entities after the deadline in the RFP Schedule for submission of Design-Builder Proposals.

3.0 RFP CONTENTS

3.1 This RFP is organized in the following sections:

1. Receipt of Proposals
2. Introduction
3. RFP Contents
4. Project Description
5. Scope of Design-Build Entity's Services

6. Design-Build Entity Selection Process
7. Pre-Proposal Conference
8. District Representative/Questions
9. Design-Build Proposal Requirements
10. Project Award and Commencement
11. Other Terms and Conditions of the RFP Process
12. Attachments

3.2 RFP Documents

The following documents are part of the RFP:

A. Attachment 1 – Project Documents

Criteria Documents

1. Program: (Jonas Center and Building 18 Alterations)\
2. Site plan
3. 80% Schematic Design (10.06.17)

Reference Documents

1. Ninyo and Moore, Existing Facilities Assessment (Hazardous Materials) Indian Valley Campus (2006)
2. Indian Valley Campus Hazardous Materials report (2009)
3. Indian Valley Campus baseline geological study (2005)
4. Indian Valley Campus Draft Environmental Impact Report July 2007 (SCH 2007032097)
5. Fugro West, Inc., Baseline Geologic Hazards Study (2005) Indian Valley Campus
6. Indian Valley Campus topographic survey.

B. Attachment 2 – Contract Documents
   1. Form of GMP Contract
   2. Form of General Conditions

C. Attachment 3 –Design-Build Entity Certification

D. Attachment 4 –Non-Collusion Affidavit

4.0 PROJECT DESCRIPTION

4.1 Description

The Project is located at 1800 Ignacio Boulevard, Novato, CA (Indian Valley Campus). The Indian Valley campus is the designated site for the Bill and Adele Jonas Center and includes alterations to Building 18 and sitework.

The District desires to design and build a large banquet facility which will serve the College of Marin and the entire Marin Community. The Center would be called the Bill and Adele Jonas Center and will have the capacity to cook, seat and serve meals to a minimum of 250 people. It is anticipated to be one of the more desirable and sought after event facilities in Marin County and will be available for college use including performances, rentals (i.e. weddings and business expos), and Rotary Club luncheons and events. The site for the facility is at the confluence of two creeks in a wooded setting. The building envelope of the facility will be constructed primarily within the footprint of the existing building (Building 19) at the site. Design could include utilizing some of the existing vacant building with targeted demolition or building a new structure on the existing foundation. It is anticipated that the facility will have decks and/or patios as well as landscaping as shown in the Criteria Documents. The Project also includes designing and building a lounge coming off the Center and alterations to Building 18. Building 18 is located immediately adjacent to Building 19 and the alterations to Building 18 consist of designing and building a production kitchen to support the Center, conference rooms, offices and mechanical and storage rooms. Programming and design goals are further indicated the Criteria Documents in Attachment 1.

It is estimated that the full cost of the Project, including all hard and soft costs will be $15,413,594 with bid contingencies. This Project is included in the budget for the recently voter approved Measure B bond funds, with funding for the Center supplemented by a $5,000,000 Bill and Jonas Bequest administered by the Novato Rotary Endowment.

4.2 Project Documents

A. Criteria Documents. The Criteria Documents set forth in Section 1 of Attachment 1 are provided as the District's approved baseline design, amenities and aesthetic goals for the Project. DBEs are asked to consider and follow the Criteria Documents as it is the District's intent the Work to be performed by Design-Build Entity as part of the Project shall be designed and constructed in accordance with the Criteria Documents. DBE shall remain responsible for the adequacy and completeness of all aspects of the design.

B. Reference Documents

Geotechnical Data and Existing Conditions applies to all supplied existing drawings and geotechnical reports, and all other information supplied regarding existing conditions above ground or below ground. Hazardous Materials Surveys applies to all supplied existing drawings, reports, surveys, and all other information supplied regarding existing Hazardous Materials conditions relating to the Project.

4.3 Project Requirements

A. The Estimated Direct Construction Cost (for purposes of Fee Proposal calculation) is $14,500,000

B. Liquidated damages are One Thousand Five Hundred dollars ($1,500.00) for each calendar day that the Project extends beyond the Substantial Completion Date and Five Hundred dollars ($500.00) for each calendar day that the Project extends beyond the Final Completion date.

C. DBE is required to be licensed in the State of California with a 'B' license.

D. The Architect is required to be licensed in the State of California.

5.0 SCOPE OF DESIGN-BUILD ENTITY'S SERVICES

5.1 Contract Scope of Work

The specific scopes of work to be performed by DBE during the Phase 1, Design and Preconstruction Services and Phase 2, Construction Services, are summarized below. This RFP summarizes and supplements work specified elsewhere in the Contract Documents in the form of Attachment 2 for this Project. The Contract Documents are cumulative and shall be read together, and DBE shall provide services specified in the RFP, their proposal, and all other components of the Contract Documents.

5.2 No Guarantee for Award

There is no guarantee that District will award a contract for any portion of this Project, including Phase 1 (Design and Preconstruction Services) or Phase 2 (Construction Services). DBE will not be entitled to recover any costs, anticipated profit, or monetary awards for proposal preparation in the event the District decides not to award a contract.

5.3 Collaboration

DBE shall work in collaboration and cooperation with District towards realizing a high quality Project.

5.4 Integrated Project Delivery

Although Integrated Project Delivery per se is not required, District encourages DBE to manage its relationships with the other members of the team in accordance with Integrated Project Delivery (IPD) principles and practices. Such IPD principles and practices include utilizing BIM and collaborative design with all key subcontractors and stakeholders such as building user groups, facilities staff, information technologies staff, commissioning agent, FFE consultant, enterprise vendors, and College and District management and executive staff.

5.5 Wage Rates

DBE is required to comply with all applicable prevailing wage requirements and/or regulations. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are on file at District's main office and are deemed included in the Proposal Documents. Upon request, District will make available copies to any interested party. State prevailing wage requirements are published by the Director of the State of California Department of Industrial Relations and can be found online at www.dir.ca.gov/.

5.6 DIR Registration and Compliance Requirements

The Design Build Contractor and the Subcontractors, of every tier, shall be registered with the Department of Industrial Relations pursuant to Labor Code §§ 1725.5 and 1771.1 for the duration of time that Contractor is performing the Work under the Contract Documents. Neither Contractor nor any Subcontractor shall be qualified to submit a Bid/Proposal or be listed in a Bid/Proposal, subject to the requirements of Section 4104 of the Public Contract Code, or engage in the performance of Work under the Contract Documents unless currently registered and qualified to perform public work pursuant to Section Labor Code §1725.5. Contractor shall not enter into any subcontract without proof of the potential Subcontractor's registration. If an unregistered Contractor submits a proposal, the District will deem such proposal non-responsive. If any unregistered Contractor or Subcontractor performs Work on this Project at any time, the District has the right to terminate the Contract for cause.

5.7 Equal Employment Opportunity

DBE shall comply with all applicable federal, state, and local laws, rules, and regulations in regard to nondiscrimination in employment because of race, color, ancestry, national origin, religion, sex, marital status, age, medical conditions, disability, or any other reason.

5.8 Project Stabilization Agreement

The Marin Community College District Board of Trustees has executed a Project Stabilization Agreement ("PSA") for certain Measure B projects. The Center is exempt from the PSA; all other elements of the Project (Building 18 alterations, lounge and sitework) are subject to the PSA. All Design-Build Entities must comply with the requirements of the PSA as to the non-Center components of the Projects.

5.9 Owner Controlled Insurance Program

The Marin Community College District has elected to implement an Owner Controlled Insurance Program ("OCIP") provided by the Statewide Educational Wrap Up Insurance Program Joint Powers Authority ("SEWUP") on this Project. This program will provide Worker's Compensation, General Liability, Excess Liability, Contractor's Pollution Liability, and Builders Risk insurance coverage for Design-Build Entity and all its subcontractors on the Project.

5.10 Phase 1 – Design and Preconstruction Services

A. Full Design Services

DBE shall provide complete architectural, engineering, and consulting services as required to construct the Project in all details in accordance with good practice, applicable building codes, District Standards, and this RFP. DBE's attention is called to the requirement to complete programming validation and get final approval from District. The complete design services shall be apportioned into Phase 1 Design and Preconstruction Services, as indicated by Agreement for Design-Build Services. DBE shall manage the services provided under the Agreement for Design-Build Services so that the transition between phases is seamless.

B. Design and Preconstruction Services Phase

Design and Preconstruction Services will be performed during Phase 1 of this Project. The Agreement for Design-Build Services will authorize all Phase 1 services, upon the issuance of the Phase 1 Notice to Proceed.

C. Project Construction Phasing

District may benefit if the Project construction is divided into phasing components in addition to any phasing indicated in the RFP or the Contract Documents. Examples of possible phasing components are: demolition, mobilization, hazardous material abatement, relocation of underground utilities, site preparation, separated buildings, and landscaping. Retention release may be based on project phases with distinct schedule of values, Notices to Proceed, and Notices of Completion. Phasing components shall be identified during the design phase by DBE and proposed to District. District is not obligated to accept proposed phasing components or revise the Project phases.

D. Project Phasing Documents

Upon District's acceptance of the DBE's recommended construction phases, the DBE will include the phases in the GMP proposal to District indicating separate construction costs, schedule, and other conditions for each phase to allow each increment to be initiated, completed, and accepted in accordance with the Contract.

E. Construction Documents

DBE shall develop and review the Construction Documents with District, taking into account quality of materials and equipment to ensure a high quality design, which is achievable within the Proposal Price. DBE design decisions made during Phase 1 shall be based on construction materials, methods, systems, phasing, and costs that will provide the highest quality building within the Proposal Price and schedule.

The Contract Documents shall identify the design codes, standards, and requirements used for the development of the plans, including the edition and applicable sections.

The Construction Documents shall include a quality control program and an implementation plan to ensure that the completed Project complies with the approved design. The design professional-of record shall specify within the Construction Documents all tests and inspections that are required by the building code and those that are appropriate to achieve compliance with the Contract. DBE shall retain the design professional-of-record to provide construction administration services in a professional capacity. These services shall include shop drawing review, response to requests for information regarding the Construction Documents, and periodic visits to the site to observe the quality of the Work.

The final, approved-for-construction set of Construction Documents shall be signed and stamped by the California-licensed professionals who prepared the documents, and who shall certify their compliance with codes, standards, practices and regulations. The DBE shall retain full responsibility for the design.

F. Identify Potential Risk Factors

DBE shall identify Project risks, which are conditions or events that could negatively affect the Project scope, quality, schedule or cost. DBE shall evaluate the risk to include severity of impact, probability of occurrence and other factors as DBE deems appropriate and recommend ways to manage or mitigate each risk. DBE shall present the risk analysis in a risk matrix format.

G. Scheduling

DBE shall provide a Project Schedule during the Design and Preconstruction Services Phase representing all tasks necessary to complete the Project within the Project durations. DBE shall provide the following durations in the project schedule for reviews and approvals:

1. For design development, and construction documents, allow 28 calendar days for District to review of each.

2. For Local Fire Marshal, CGS, DSA and other government agencies, allow sufficient time as required by the reviewing agency.

H. CEQA

The District will complete CEQA review for the Project during the Phase 1 Design and Preconstruction Services. The District (through the Board of Trustees) is not committed to awarding the Phase 2 Construction Services until after appropriate CEQA review has occurred.

I. Cost Control Management

As an initial task, DBE, shall review the Estimated Direct Construction Cost and determine if it is sufficient to construct the Project. DBE shall prepare a cost estimate and evaluate the estimate against the construction budget and recommend, if necessary, actions to avoid potential cost overruns. DBE shall establish target values for the cost of each Project element to be used as a basis of design and cost monitoring. DBE shall continuously monitor costs to align with the targeted construction budget and scope. If changes are suggested to the scope that may cause cost overruns, DBE shall notify District in writing and as part of the Project meetings.

J. Construction Cost Estimates

DBE shall provide full and complete estimates at:

1. 100% Design Development
2. 50% Construction Documents
3. First DSA Submittal

District's program cost consultant will conduct a peer review of DBE's cost estimates. DBE and District will reconcile the two cost estimates. Authorization to proceed with the next step in the design process is contingent on the acceptance of the cost estimates.

K. Construction Cost Savings

It is one of the collaborative responsibilities of DBE to look for ways of reducing Project construction costs. DBE's proposed cost reductions shall not reduce the Project program requirements, reduce quality of materials or craftsmanship, increase life-cycle costs, negatively affect the architectural aesthetics or design intent, or adversely affect the Project completion.

L. Design and Preconstruction Phase Investigation and Preparatory Work

DBE shall assess the type, quantity, and quality of the available information describing existing site conditions. DBE shall make recommendations to the District regarding supplemental site surveys if more information is needed. If District deems it necessary to investigate conditions at the Project site or have incidental construction work performed during the Design and Preconstruction Services Phase, DBE shall provide the required services by performing limited scope construction.

M. Testing and Inspection

Testing and inspection of the Project's construction will be performed and paid for by District. DBE shall coordinate and cooperate with District's inspection and testing agencies.

N. Subcontractor Procurement Methodology

1. DBE shall procure all trade contractors that were not identified as members of the DBE team in the Statement of Qualifications or in the DBE's technical proposal, in accordance with Education Code section 81704(c). All subcontracts with such trade contractors shall be awarded according to a publicly-advertised process that provides for public notice of the availability of work to be subcontracted and a fixed date and time on which the subcontracted work will be awarded. These subcontractors shall be afforded the protections contained in Chapter 4, (commencing with Section 4100) of Part 1 of Division 2 of the Public Contract Code.

2. The Design-Builder will work with the District to determine which of the two following methods will be used to procure each individual Subcontractor:

   Option (1) - A competitive bidding process resulting in lump-sum bids by prequalified entities for an award made on the basis of the lowest responsible bid; or,

   Option (2) - To the responsible proposer determined to be the Best Value to the Design-Build Entity. "Best Value" shall be determined from the following minimum scoring criteria factors, each representing ten (10) percent of the total weight or consideration given to all criteria factors: price, technical expertise, life cycle costs

over 15 years or more, skilled labor force availability, and acceptable safety record. The remaining fifty (50) percent of the Best Value score shall be based on project specific criteria developed by the Design-Build Entity.

3. DBE shall identify work to be self-performed by the DBE and performed by design-assist subcontractors in the proposal, and provide documentation to confirm that DBE and its design assist subcontractors possess the required licenses. DBE self-performed work shall be compensated on the basis of direct cost of the work, with the DBE's profit and overhead percentage set forth in DBE's Proposal to be applied to those direct costs. However, the District reserves the right to change the compensation structure for DBE's self-performed Work to lump sum (*i.e.*, fixed sum, paid on a percentage of completion basis) at any time. Work performed by DBE's design-assist subcontractors will be compensated on a lump sum basis, with lump sum subcontract amounts subject to the District's review and approval.

4. DBE shall develop trade contractor bid packages. The bid packages shall incorporate DBE's subcontract agreement requirements, Project specific requirements such as site access and phasing, and Districts' bidding requirements and Contract General Conditions requirements such as assignment clauses, construction documents hierarchy clauses, and Division 1. DBE shall develop the most logical, competitive, seamless and distinct trade contractor bid packages with all scopes of work included in the packages. Include bid alternatives (deductive or additive), as appropriate, in each trade contractor bid package to enable full utilization of the construction budget. DBE shall develop Supplementary General Conditions (with District's participation and approval) as needed. DBE shall require compliance with prevailing wage rates that are current when beginning trade bidding; prevailing wage rates are available for downloading on DIR website. DBE's trade contractors must comply with the District's PSA.

5. DBE shall prequalify its major trade contractors (at least the mechanical, electrical, plumbing, and trades where the estimated cost of the trade work is greater than five percent (5%) of the Construction Budget) using objective criteria. Once this process is completed, the DBE shall provide a list of prequalified trade contractors to the District.

6. DBE shall make best efforts to obtain a minimum of three bids from trade contractors for each bid package.

7. DBE shall not allow or cause contingencies or allowances as part of trade contractors' bids.

8. District will not reimburse DBE or trade contractors for the reproduction costs of bid or construction documents

9. Once District has approved individual or multiple trade contractor bid packages, DBE shall bid these packages competitively as described above. Bids will be in the form of lump sum or best value as agreed by the DBE and District. DBE shall issue a notice to bidders and bid advertisement in accordance with Public Contract Code for all trade bids or prequalifications, and in that notice indicate that the Project is a public works Project, and as such is subject to prevailing rate wages in addition to DBE

prequalification requirements. The District may require the DBE to use an Online Vendor Portal; set up specifically for this project to manage these public works bid solicitations.

10. DBE shall receive bids and review them with District to identify the lowest responsible bidder, or best value proposer, as applicable to each trade contract DBE shall review and confirm scope of work with trade contractors before subcontracts are awarded. DBE shall invite District's representative to the bid openings and to participate in reviews with DBE. DBE shall provide a copy of subcontracts to District and, as requested by District, lower tier subcontracts. District shall approve award of subcontracts.

5.11 Phase 2 – Construction Services

A. Construction Services

Once DBE has successfully obtained DSA approval of the construction documents, DBE will submit a proposed Guaranteed Maximum Price for consideration by the District. Once the GMP is approved by the District, the DBE and District will execute a GMP Addendum. The GMP established in the GMP Addendum will be the maximum compensation available for Phase 2, unless the GMP is increased by the District. Any remaining services described as Phase 1, Design and Preconstruction Services may also be provided, as appropriate, in Phase 2, Construction Services.

B. Issuance of Phase 2 Notice to Proceed

The District shall issue the Phase 2 Notice to Proceed within 10 days of execution of the GMP Addendum.

C. Conduct Preconstruction Conference

District and DBE shall co-conduct a preconstruction conference with the trade contractors, design personnel, and appropriate District staff. The preconstruction conference agenda will include OCIP, safety, job procedures for clarifications, change orders, shop drawings, progress payments, field testing and inspection, and preparation and distribution of preconstruction conference notes.

D. Update the Project Schedule

DBE shall update the Project Schedule.

E. Make Presentations

DBE shall assist District in reporting Project progress to oversight entities at regular intervals. DBE shall prepare occasional presentations as requested by District regarding issues of special importance.

F. Notices to Proceed

DBE shall not proceed with any given phase of construction until the District issues a Notice to Proceed for that phase. Conditions for the issuance of a Notice to Proceed include completion of plan checks required for that phase, verification of conformance to the Contract Documents, verification of required bonding and insurance, and confirmation that project cost is within project budget.

6.0 DESIGN-BUILD ENTITY SELECTION PROCESS

6.1 The District will select the Design-Build Entity from the submitted proposals to this RFP as follows:

- Shortlisting Pre-Qualified Prospers: The District will appoint a selection committee to review and score the proposers to establish whether an Applicant meets the District's prequalifying criteria, as set forth in this RFP. The three (3) highest ranked firms will be shortlisted for interviews. The District reserves the right to reject all responses to this RFP. The District will notify all Applicants of the outcome. Only responses by qualified Proposers will be considered by the District.

- Interview of Shortlisted Pre-Qualified Proposers: the District's Selection Committee will have scored the proposals from the finalists and will conduct interviews of the short-listed proposers, and perform reference checks. **The District will select a design-build entity based on qualifications and proposed fees**. Selection of the successful Proposer in Step 2 shall be based upon pre-established criteria set forth in the Request for Proposal, which include cost and other factors. Award of the Design-Build Contract will be made to the Proposer whose Design-Build Proposal and interview are determined by the District to be overall the best value to the District. The District reserves the right to reject all proposals.

6.2 Selection Process Schedule and Proposed Project Schedule

Schedule Activities	**Dates**
Post Design-Build RFP	1/29/18
Pre-Proposal Conference	2/06/18
Deadline for Questions for Addenda	2/20/18
Issue FINAL Addenda	2/27/18
Proposals Due	**3/20/18**
Review and Evaluate Proposals	3/21/18 – 4/04/18
Notify Shortlisted Firms	4/05/18
Interviews	4/12/18
Board Submittal Deadline	5/04/18
Board Meeting Date	**5/15/18**
Issue Notice of Award	5/16/18
Contract Executed/Notice to Proceed	5/23/18

6.3 Changes to the Selection Process Schedule

The District reserves the right to change any and/or all of the dates stated above. Any changes to the schedule for the RFP process will be issued by addenda posted to the District web page. It is the sole responsibility of a Proposer to check the website for any and all addenda and to be completely familiar with the contents thereof.

6.4 Proposed Project Schedule

Proposers shall include a proposed date for Final Completion of the Project in their Technical Proposal as part of the Project Schedule and Plan.

6.5 Project Scheduling

DBE is invited, during Phase 1, to suggest ways to save time or cost by phasing, re-sequencing the construction phase, or changing the construction durations. If District approves a change to the duration or phasing of the Project, DBE compensation may be revised. In its sole discretion, District may authorize construction components prior to acceptance of the GMP for construction of the entire Project.

7.0 PRE-PROPOSAL NON-MANDATORY CONFERENCE

District will conduct **one non-**mandatory Pre-Proposal Conference and Site Visit on Feb. 6th , 2018, at 10 am Indian Valley Campus, Building 9, Room 101, located at 1800 Ignacio Boulevard, Novato, California, 94949. Proposers are advised to arrive early in order to park and obtain a parking pass from parking permit machines. The District will transmit to all competing Design-Build Entities any Addenda as District in its discretion considers necessary in response to questions arising at the Pre-Proposal Non-Mandatory Conference.

8.0 DISTRICT REPRESENTATIVE / QUESTIONS

8.1 District's Representative

District's Representative for the Design-Build Entity Selection Process is:

Name: Mayra Ramirez, Measure B Buyer
Telephone: (415) 883-2211 ext. 8308
E-mail: e-mail: mramirez@marin.edu

8.2 Procurement and Contract Services Address: Fiscal Services Department, Building 8, 1800 Ignacio Blvd. Novato, CA 94949.

8.3 Clarification and Questions Regarding this RFP

All communications regarding this RFP including requests for information or clarification of the intent or content of this RFP must be submitted electronically via email to tmcbrian@marin.edu and mramirez@marin.edu

All questions must be submitted no later than the due date indicated in the Selection Process Schedule in Section 6.2. Questions received after the due date will not be considered. No email or telephone call questions will be responded to. It is the sole responsibility of each Proposer to check the District's website at http://fiscal.marin.edu/bids for any and all addenda and to be completely familiar with the contents thereof. Only the District's Representative identified below is authorized to answer questions relative to this RFP. Information obtained verbally from any other source has no authority, may not be relied upon, and shall have no standing in any event that may occur.

9.0 DESIGN-BUILD PROPOSAL REQUIREMENTS AND SCORING

9.1 Proposal Submittals

District will accept Proposals no later than the time and date indicated in Selection Process Schedule, Section 6.2. Proposals shall be divided into two separate submittals, the Technical Proposal and the Fee Proposal. Each submittal shall be submitted in a separate envelope or package and be clearly marked as required below.

The Technical Proposal and the Fee Proposal shall be submitted after the Pre-Proposal Non-Mandatory Conference but before the interviews.

A. Technical Proposal Submittal Submit seven (7) complete sets of the Technical Proposal and one electronic PDF copy in a sealed package, with the following clearly marked on the outside:

"Proposer's Firm Name"

"Technical Proposal – College of Marin, Bill and Adele Jonas Center, Building 18 Alterations RFP ____"

B. Fee Proposal Submittal Submit one (1) complete set of the Fee Proposal in a sealed envelope with the following clearly marked on the outside:

"Proposer's Firm Name"

"Fee Proposal – College of Marin, Bill and Adele Jonas Center, Building 18 Alterations RFP ____"

9.2 Delivery of Proposals

Proposals must be delivered to the address below at or before the time and date set in the Selection Process Schedule, in Section 6.2. Proposals delivered to other places will not be considered.

Mailing Address: Hand Deliveries/Street Address: Marin Community College District, Fiscal Services Department 1800 Ignacio Blvd., Novato, CA 94949

Attention: Attention: Mayra Ramirez, Measure B – Buyer

9.3 Responsibility for Timely Delivery of Proposals

The Proposer is solely responsible for ensuring delivery to the submittal location no later than the date and time specified. Use of the United States Postal Service, campus mail system, express or overnight delivery, or any other service, shall not relieve the Proposer from the requirements of meeting the specified deadline at the specified location. District will return unopened any Proposal received after the due date and time.

9.4 Proposer's Cost

Each Proposer acknowledges and agrees that the preparation of all materials for submittal to District and all presentations, related costs and travel expenses are at the Proposer's sole expense, and District is not, under any circumstances, responsible for any cost or expense incurred by the Proposer, unless otherwise stated herein.

9.5 Selection Policy

It is the policy of District that the selection of DBE to provide professional design and construction services for this Project is based on the proposal that provides the "best value" to the District, as that term is defined in Education Code section 81701, and in this RFP.

9.6 Evaluation and Scoring of Proposals

District shall date and time stamp Proposals on receipt. Proposals will not be opened publicly, but may become public as described in subparagraph 11.12 Public Records Request below. The District's Selection Committee will evaluate each proposal to determine its responsiveness to the District's requirements. Each question will be scored against an ideal Proposal in the opinion of Selection Committee; the ideal Proposal would receive the maximum number of points possible as indicated. If all information is not provided, the Proposal may not be considered. Each question is assigned a maximum score in relation to District's assessment of the associated contribution toward achieving project goals.

9.7 Qualification Criteria

Proposer qualifications will be evaluated using the Qualifications Criteria in Section 9.7 below. The Qualifications Criteria have a total point value of 100 points and a Proposer must receive a minimum score of 75 points to be found qualified and eligible to be shortlisted and interviewed.

1. <u>Minimum Qualifications (No Points - Pass Or Fail)</u>
   Each Proposer must meet the required minimum qualifications as follows:

   - The Proposer and sub-contractors in its team must have valid and current California licenses.
   - The Proposer must have demonstrated project submittal experience with the California Division of the State Architect (DSA).

- The Proposer's firm must have been in business in California under the present company or business name and license number for the last three years.
- The Proposer must meet or exceed minimum project bonding, insurance and labor requirements.

2. Firm Information (No Points – For Information Only)
   - The Proposer shall provide a brief history of its firm, identifying legal form, ownership and senior officials of company and state the number of years in business.
   - The Proposer shall provide current and active California Contractors License(s).
   - The Proposer shall list and briefly describe any debarment, disqualification, or removal from a federal, state or local government public works project.
   - The Proposer shall list and briefly describe any instance where the Proposers, its owners, officers or managing employees defaulted on a construction contract.
   - The Proposer shall list and briefly describe any instance where the Proposer, its owners, officers or managing employees submitted a proposal or bid on a public works project and were found by an awarding body not to be a responsible proposers or bidder.
   - The Proposer and its owners, officers, or managing employees shall list all adverse claims, disputes, or lawsuits arising from any school, public or private project for which the Proposer provided work within the past 5 years and state and briefly describe the issues involved in the claims, disputes or lawsuits. For lawsuits, the Proposer must describe the status of the lawsuit and provides the names of parties and the outcome of the lawsuit if resolved.
   - The Proposer shall provide information concerning any bankruptcy or receivership involving the Proposer or its owners, officers or managing employees, including information concerning any work completed by a surety.

3. Financial Performance (Maximum 10 Points)
   - If public, Proposers shall provide a website link to their audited annual investment reports. If private, Proposers shall attach audited financial statements for the last two (2) years.

4. Building Center Design-Build Project Experience (Maximum 45 Points)
   - Demonstrate technical experience and capability to construct and manage a project similar in size to the Project.
   - Demonstrate experience and capabilities in design-build delivery.
   - Identify and provide references for a minimum of three (3) K-14 building projects within the last five (5) years, each in excess of $15,000,000, at least two must be approved and certified by the DSA, that involve construction and demolition of classrooms, labs and learning environments.
   - Name of project, size of project and District or Owner
   - Contact person and telephone number

5. Proposed Project Team (Maximum 20 Points)

The selected firm shall employ at its expense professionals properly licensed and skilled in the execution of the functions required for the execution of the Project.

Identify of Project team inclusive of a California licensed Structural Engineer. Provide resumes of all team members and engineers:

- Qualifications/certifications.
- List license numbers and dates

6. Insurance And Bonding (Maximum 10 Points)

Provide the following regarding insurance coverage for the estimated value of the Project.

- Provide evidence from Insurance Carrier (i.e. letter, certificate)
- Professional Liability Insurance for Architect and Engineer of Record $2 Million per occurrence, $2 Million aggregate
- General Liability Insurance $2 Million per occurrence, $2 Million aggregate
- Payment and Performance Bonds for full value of approximately $25M
- Workers Compensation
- Financially viable Insurance rating of VIII or better and licensed in the State of California

7. Safety (OSHA) (Maximum 15 Points)

Compliance with California Occupational Safety and Health Act ("OSHA") and with Other Labor Legislation Safety:

- Has OSHA cited and assessed penalties against your firm for any "serious," "willful" or "repeat" violations of its safety or health regulations in the past five years?

  NOTE: If you have filed an appeal of a citation, and the Occupational Safety and Health Appeals Board has not yet ruled on your appeal, you need not include information about it.

  If "yes," attached a separate signed page describing the citations, including information about the dates of the citations, the nature of the violation, the project on which the citation(s) was or were issued, the amount of penalty paid, if any. If the citation was appealed to the Occupational Safety and Health Appeals Board and a decision has been issued, state the case number and the date of the decision.

- Has the Federal Occupational Safety and Health Administration cited and assessed penalties against your firm in the past five years?

  NOTE: If you have filed an appeal of a citation and the Appeals Board has not yet ruled on your appeal, or if there is a court appeal pending, you need not include information about the citation.

If "yes," attach a separate signed page describing each citation.

- Has the EPA or any Air Quality Management District or any Regional Water Quality Control Board cited and assessed penalties against either your firm or the owner of a project on which your firm was the contractor, in the past five years?

  NOTE: If you have filed an appeal of a citation and the Appeals Board has not yet ruled on your appeal, or if there is a court appeal pending, you need not include information about the citation.

  If "yes," attach a separate signed page describing each citation.

- How often do you require documented safety meetings to be held for construction employees and field supervisors during the course of a project?
- List your firm's Experience Modification Rate (EMR) (California Workers' Compensation Insurance) for each of the past three premium years:

  NOTE: An Experience Modification Rate is issued to your firm annually by your workers' compensation insurance carrier.

  Current year
  Previous year
  Year prior to previous year

  If your EMR for any of these three years is or was 1.00 or higher you may, if you wish, attach a letter of explanation.

- Within the last five years has there ever been a period when your firm had employees but was without Workers' Compensation insurance state-approved self-insurance?

  If "yes," please explain the reason for the absence of Workers' Compensation insurance on a separate signed page. If "No," please provide a statement by your current Workers' Compensation insurance carrier that verifies periods of Workers' Compensation insurance coverage for the last five years. (If your firm has been in the construction business for less than five years, provide a statement by your Workers' Compensation insurance carrier verifying continuous Workers' Compensation insurance coverage for the period that your firm has been in the construction business.)

9.8 RFP Compliance Check

If proposals do not meet minimum submittal or content requirements herein, do not meet overall qualification standards, take unacceptable exceptions to the RFP requirements, or violate prohibitions in Public Contract Code dealing with conflict of interest, then District may deem the proposal non-responsive and eliminate the Proposer from further consideration.

9.8 Pre-Proposal Conference

Before the Proposals are submitted to District, at the District's sole discretion, one Mandatory Conference with each Proposer will take place as described herein. District may issue RFP addenda to all respondents based on the product of the Meetings.

A. The proposer will manage its meeting with District. Each meeting will be for no longer than 1 hour. The Proposers may use their time to ask question about the Project, the District's goals and preferences, possible approaches to the work, and receive feedback.

9.9 Proposal Analysis

The District's Selection Committee will analyze each technical proposal to score the proposals in the categories set forth below. Once evaluations are completed, the Selection Committee will conduct in-person post-proposal interviews with each Proposer, after which technical scores may be revised.

9.10 Post-Proposal Interviews

After evaluation of the Technical proposals, and as part of the evaluation process, District's Selection Committee will interview all Proposers on April 12, 2018. The structure for these meetings and interviews will be as follows:

- Proposers will be randomly selected for time slots for interviews. The interviews will be conducted at the college campus or District office; the Proposers will be advised of the exact location.
- Proposers will receive 45 minutes to make their presentations and 30 minutes for questions and answers from the panel.
- Proposers may arrive 10 minutes before their interview time to set up equipment and materials for presentation.
- Proposers should feel free to use any form of electronic media or otherwise to make their presentations within the allotted time.
- Proposers are requested to present their approach to the design and construction of the Project.
- Proposers shall bring those members of their team limited to five (5) people who will occupy key positions on the Project such as Preconstruction Coordinators, Project Managers, Architects, Designers, Project Executives, and Key Consultants so that the District interviews individuals who will work on the Project.

9.11 Best and Final Offers

After the post-proposal interviews are completed, the District may request any or all Proposers to submit its best and final offer to District.

9.12 Scoring Calculation of Qualified Proposals

The winner will be the Proposer with the highest combined technical and fee scores. In the event of a tie for first place in the total score, the winner will be the tied DBE with the lowest proposed fee. If

the proposed fees are equal the winner will be selected by a coin toss in the presence of both parties and managed by District. District requires that the tied Proposers agree to the coin toss procedure in writing before the toss.

9.13 Technical Proposal Requirements

A. Intent of Technical Proposal

District's intent for the technical proposal is to determine the Proposer's ability to successfully deliver the Project using the Design-Build project delivery method. It is District's goal that this Project implement a highly collaborative form of design-build that will require the successful DBE to work closely with District during each phase to deliver a high quality project on time and within the project budget. District requires that DBE use a target value design approach that continuously evaluates cost estimates against the target cost.

B. Required Content of Technical Proposals

Proposers shall submit Technical Proposals that include all the following information, including a comprehensive but concise summary of qualifications and capabilities to satisfy the requirements of the RFP. Proposers shall adhere to the following organization in their Proposals by providing tabs for sections as listed below.

Introduction Section (No tab required)

- Cover Letter providing each of the following: 1) referencing the RFP (including all addenda and attachments) and confirms that all elements of the RFP (including all addenda and attachments) have been read and understood; 2) confirming that Proposer's RFP submittal is in response to this RFP and agrees to enter into Phase 1 Design and Preconstruction Services and construction services contracts if selected, and all information in the RFP is accurate under penalty of perjury; and 3) signed by an individual authorized to contractually bind the Proposer.

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Tab 1 - Project Design Approach 20 Points

Provide your approach and work plan for the Project. Indicate a clear understanding of the objectives of the Design-Build delivery and include at a minimum:

A. A narrative for the approach to be used during the Design and Preconstruction Services Phase, including:

1. The approach to develop and review the design and construction documents with the District to ensure the Project meets the design, amenities and aesthetic goals in the Criteria Documents.

2. The process to confirm the construction budget is sufficient to construct the Project. Describe how DBE will implement Target Value Design to stay within the construction budget.

3. The approach to ensure self-performed and design-assist trade contractor costs reflect current market pricing.

4. How DBE will approach each of the following aspects of the Project: the design; design review; constructability review; estimating; value engineering; scheduling & phasing; construction methods; materials; equipment & systems; recommendation of alternative materials and/or methods to maximize the construction budget.

5. The process to identify opportunities for sustainable design and how the concepts for sustainability will be developed into the Project.

6. The process for developing bid packages with logical distinct scopes of work.

7. A Quality Control plan that will be used during the preconstruction and design phase, which plan shall include:

    a. A process to identify constructability issues.
    b. A process for reviewing the coordination of building system design.
    c. A process for identifying construction detailing clarifications using trade best practices approach and previous Project knowledge.

8. A process using objective criteria to prequalify trade contractors.

9. A description of DBE's experience with employing design assist or design build trade contractors. Describe which trades are proposed for design assist and / or design-build services on this Project.

10. The process for presenting design schemes and budget, to District for approval.

11. The process for validating/finalizing programming.

12. The process for obtaining District approvals of systems and materials.

B. A narrative for the approach to be used during the construction phase, including (but not limited to):

1. Administration of the schedule to verify that all trade contractors are performing expeditiously, in an economical manner and to provide the monthly schedule updates to District.

2. A preconstruction conference to verify that the trade contractors are familiar with the scope of work and process required for the coordination of inspections, field testing, shop drawing approval, and submittal approval as related to their scope of work.

3. A description of the process to review monthly progress payment requests from trade contractors.

4. A description of the process to coordinate the trade contractor work, schedule and problem resolution.

5. A Quality Control plan that will be used during the Construction Phase and include but not be limited to the following:

    a. The process and key personnel that will be tasked with the review and coordination of all submittals/shop drawings prior to submitting to the District for review.

    b. The process and key personnel that will be tasked with assessing the craftsmanship and workmanship by all trades and verify that all materials installed are per the approved submittals and shop drawings.

    c. How mock-ups will be used to determine the level of craftsmanship and workmanship required to meet the District's requirements for quality.

    d. The process that will link the constructability, value engineering and cost control management processes from the Design and Preconstruction Services Phase to the Construction Services Phase for a seamless flow from design to construction between the trades and as coordinated by the DBE.

6. Project closeout plan and processes that will be used to comprehensively complete closeout requirements within 60 days post substantial completion.

Tab 2 - Project Schedule and Plan **35** Points

Proposal shall include a summary level schedule illustrating how DBE intends to manage the Project. Provide a schedule and narrative for the Design and Preconstruction Services Phase and Construction Services Phase services and include at a minimum the following:

A. A CPM schedule that integrates critical major design and critical major construction activities.

B. Illustrate an understanding of District's academic calendar, operations, and processes, required Project approvals, and durations for reviews.

C. Coordination of the project milestones with critical approval, review and activity links.

D. Identifies sequences and relationships for critical submittals and shop drawings.

The Project Schedule and Plan is intended to show that DBE understands the overall process and sequencing of activities starting at the beginning of design through the end of construction.

TAB 3 – Life Cycle Costs Analysis Over 15 Years 25 Points

The District recognizes that the Design Build proposals will not include a full design within the proposal and therefore a full life cycle analysis of the proposed systems is not practical at the time of submittal. The District has a focused interest in the total cost of ownership of the building over its expected life and desires a lower cost over the life of the building even if it means a higher initial construction cost. The District wants this project to be energy-efficient and sustainable. Design-Build Proposals shall include information to demonstrate their design approach to "Life Cycle Costs".

Describe the team's approach to designing major systems as well as finishes with consideration for its first cost, estimated life, annual maintenance cost, operation cost and projected replacement time.

Teams should state their approach to energy modeling of the building, continuous commissioning, and the expected design energy use intensity of the building(s).

Similarly, District desires highly durable finishes within the available budget. Teams should discuss their approach to evaluating and selecting finishes on the basis of total life cycle.

TAB 4 – Skilled Labor Force Availability 25 Points

Pursuant to Education Code Section 81703(c)(2)(F), each Proposer must have an agreement with a registered apprenticeship program, approved by the California Apprenticeship Council, which has graduated apprentices in each of the immediately preceding five years. The scoring of the "Skilled Labor Force Availability" factor shall be based upon the extent to which the information provided in the Design-Build Proposal demonstrates that the Proposer exceeds this minimum requirement as based upon the District's review of the information and documents provided in respect to following labor availability subfactor:

> Apprenticeship Agreement(s): Provide copies of Proposer's Apprentice Agreement(s) Proposer has with registered Apprenticeship Program(s), approved by the California Apprenticeship Council, which has graduated apprentices in each of the past five years. Additional points will be granted for major trade contractor apprenticeship agreements.

TAB 5 – Safety Record 25 Points

Pursuant to Education Code 81703, each Proposer must have an experience modification rate for the most recent three-year period average of 1.0 or less, and its average total recordable injury or illness rate and average lost work rate for the most recent three-year period must not exceed the applicable statistical standards for its business category, or if the (Proposer) is a party to an alternative dispute resolution system as provided for in Section 3201.5 of the Labor Code. The scoring of Safety Record

shall be based upon the extent to which the information provided in the Design- Build Proposal demonstrates that the Proposer exceeds the minimum requirement based on the District's review of the information and documents submitted in respect to each of the following safety sub-factors:

a. Experience Modification Rate: Provide written certification from the worker's compensation insurer for the Design Builder confirming the average "Experience Modification Rate" over the last 3 full calendar years.

b. Total Recordable Incident Rate (TRIR): Provide the (i) TRIR for the past 3 full calendar years (as recorded on OSHA Form 300); and (ii) copies of OSHA 200/300 logs confirming the number of cases listed.

c. Days Away from Work Case(s): Provide (ii) LWR calculation for the past 3 full calendar years (as recorded on OSHA Form 300.); and (iii) copies of OSHA 200/300 logs confirming the number of cases listed.

d. Fatalities: Provide (i) a listing of incidents during the last 3 full calendar years as recorded on OSHA Form 300 Box G; and (ii) copies of OSHA 200/300 logs confirming the number of fatalities listed.

OSHA Citation History: Provide (i) a listing of all serious and willful OSHA citations during the last 3 full calendar years (including type of citation, current status, and fine paid. This information is available at http://www.osha.gov/pls/imis/establishment.html

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TAB 6 – Exceptions/Clarifications 0 Points

Any exceptions or clarifications to the RFP must be listed on an item-by-item basis and cross-referenced with the RFP document. If there are no exceptions or clarifications, the Proposer must expressly state that no exceptions or clarifications are taken.

TAB 7 – Price **40** Points

Each Design-Build Entity that agrees to design and construct the Project as described herein, and satisfy all other Design-Build Entity obligations under the Contract Documents, for the stipulated Lump Sum shall receive a maximum number of twenty-five (25) points under this paragraph. The District is not interested in identifying the "lowest bidder", but rather intends to identify the Design-Build Entity whose Proposal offer the best value for the Stipulated Lump Sum.

TAB 8 – Technical Expertise 25 Points

The Design-Build Entity whose team as described is determined by District to be the most qualified, when compared with the other Design-Build Entities, shall receive the maximum score of twenty-five (25) points under this paragraph. Design-Build Entities judged to have lesser technical expertise will be assigned a score of less than twenty-five (25) points, in descending order of their perceived Technical Expertise as judged by the District.

TAB 9 – Design Sketches to Accompany Technical Proposal 25 Points

Submit no more than four 24x36 size sketches or renderings (and an electronic PDF version) that best reflect the DBE's vision of a structure that conforms to the District's baseline design goals in the Criteria Documents while also enhancing the surrounding campus context. The design shall complement the Criteria Documents in scale, massing, color and finishes while allowing creative interpretations. The design will not be binding but only a concept to convey aesthetic intent. The accuracy of the building size, height and massing will not be judged.

TAB 10 – Proposal Interviews – Not Part of the Written Technical Proposal 30 Points

The makeup of the proposed DBE Project team, their understanding of the project and commitment to its success, and their ability to communicate and work effectively with the rest of the team and the District is of critical importance to the District. The interview after proposal submittal is an integral part of the evaluation process. The DBE presentation should focus on the following:

A. Introduction of the proposed staffing for the Project. What qualities will each proposed staff member bring to the team that will lend to the success of this Project?

B. The factors that make the proposed Design-Build team uniquely qualified and the best suited for this Project?

C. Verbal presentations by proposed staff of their previous experiences, both successes and difficulties, with working on previous project teams.

D. Highlight any areas of the DBE's proposal that warrant the special attention of the District's Selection Committee, especially projects that the team has completed together in the local area that demonstrate their ability to successfully complete this Project.

E. Present the DBE's approach to meeting Project goals. State the DBE's opinion of the construction budget and schedule.

F. Present questions the DBE may have for the interview team.

Total Maximum Points **250 Points**

9.14 Fee Proposal Requirements

A. Contents of Fee Proposal Submittal: The Proposer shall provide a fee proposal as part of the DBE selection process.

B. Fee Proposal Form: The Fee shall be submitted in the Proposal and shall be shown in percentages and dollar amounts.

C. The Design-Build Entity shall propose fees for the Project in the following manner:

a. Phase 1 – Design and Preconstruction Services Fee

1. Please provide a lump sum amount to cover all Phase 1 services, including:

(a) Full design services (SD, DD, CD) fees for architect, engineers, consultants, design-build and / or design assist trade contractors, and others.

(b) Efforts to complete or validate the programming phase and design criteria that was started and made available with this RFP and use it as a basis for detailed final programming effort.

(c) Phase 1 Design and Preconstruction Services including estimating, scheduling and constructability reviews for DBE, subcontractors, consultants and others.

(d) Overhead and profit on design and preconstruction services.

Please note that DSA approval is required for Phase 1 design portion.

2. Payment will be based on percent of completion of the required scope of work, in accordance with the payment schedule included in the Contract.

b. Phase 2 – Estimated Direct Construction Cost

1. The Estimated Direct Construction Cost is $_____. The Estimated Direct Construction Cost includes those categories of costs identified as Direct Cost of Work.

c. Phase 2 – General Conditions

1. Includes but is not limited to costs in the General Conditions. Includes all staff and facilities located at the construction site to manage the construction of the project. Does not include OH&P.

2. Propose as a percentage of the Estimated Direct Construction Cost and Construction Contingency and calculate a lump sum for scoring purposes.

3. Payment for General Conditions will be based on percentage of completion of construction work.

d. Phase 2 – Overhead and Profit

1. Includes DBE overhead and profit on direct construction cost, General Conditions, and insurance that is not covered by OCIP.

2. Propose as a percentage of the Estimated Direct Construction Cost, Construction Contingency and General Conditions set forth in the Proposal and calculate a lump sum for scoring purposes. The proposed percentage will be applied to the Total Direct Construction Cost and General Conditions included in the GMP and converted to a lump sum.

3. OH&P will not be reduced due to trade contractor bid savings nor increased for trade contractor over bids.

4. Payment will be based on the percentage of the construction work completed.

e. Payment and Performance Bonds for Design-Build Entity

1. Include the cost of DBE's payment and performance bonds.

2. Propose as a percentage of the sum of Estimated Direct Construction Cost, General Conditions, and Overhead and Profit set forth in the Proposal and calculate a lump sum for scoring purposes.

3. The GMP line item for payment and performance bonds for DBE will be calculated by multiplying DBE's proposed payment and performance bond percentage by the sum of Total Direct Construction Cost, General Conditions, and Overhead and Profit included in the GMP and converted to a lump sum.

4. Payment will be made when the bonds are presented.

f. Subcontractor Performance Bonds of Insurance

1. Include the cost of subcontractor payment and performance bonds or insurance.

2. Propose as a lump sum contractor allowance, dependent on actual Direct Construction Cost.

3. Payment will be based on the actual cost of this protection up to the amount proposed.

g. Allowances and Contingencies

1. Design-Build Entity Allowances. DBE may include allowances in the GMP for potential expenditures only with specific approval from the District. DBE Allowances shall be for specific and discrete scopes of work; DBE shall not aggregate the DBE Allowances to create another contingency.

2. Owner's Allowance. District may insert an Owner's Allowance into the Agreement for Design-Build Services in the amount of 10% or less of the Initial GMP.

3. Allowance Process. In developing the GMP, the Design-Build Entity may propose including appropriate allowances for defined items of Work that cannot be appropriately quantified and estimated at the time the GMP is established. Allowances shall only be used for their identified specific and discrete purpose. Allowance balances may not be used to make up deficits on other line items. District will authorize use of Allowances in writing. Allowance items will be converted to, and included as, typical contract work by Change Order once conditions exist that allow them to be properly quantified and priced. Allowance items that cannot reasonably be quantified and priced before the allowance work begins will be reconciled based on the actual Cost of the Work. If the Cost of the Work for any item of Work covered by an allowance will be greater than the amount of the allowance, Design-Build Entity will so notify District and if District authorizes the allowance Work in a Change Order, the GMP will be increased by such difference with an additional mark-up for overhead and profit. If the cost of any item to which such an allowance applies is less than the amount of the allowance, District may issue a Change Order decreasing the GMP by the sum of the amount of such difference and the mark-up for overhead and profit on the difference. DBE shall itemize the use of the allowances and account for the allowance balances on a separate accounting accompanying the monthly payment request.

4. Construction Contingency. Design-Build Entity's Fee Proposal shall include a Construction Contingency percentage, which will be multiplied by the Estimated Direct Construction Cost to determine the contingency amount included in DBE's Fee Proposal. Design-Build Entity shall use this contingency to pay costs as detailed below. The use of the Construction Contingency shall require written approval by District, which will not be unreasonably withheld. DBE shall itemize the use of the contingency and account for the contingency balance on a separate accounting accompanying the monthly payment request. At Project completion, Design-Build Entity shall receive fifty percent of the unused portion of the Construction Contingency. Contingency-eligible costs in excess of the contingency mount shall be borne by Design-Build Entity. The following are examples of eligible and ineligible uses of contingency and owner paid change orders.

5. Eligible Uses of Construction Contingency.

   (a) Re-work due to ambiguities or conflict in construction documents.

   (b) Work shown or inferred on construction documents but missing from bid packages.

   (c) Work shown or inferred in the construction documents, but not described to the extent that it is sufficient to obtain competitive bids.

   (d) Security personnel to control unexpected union picketing.

   (e) Expenditures suggested by DBE and agreed to by District for the benefit of the Project.

(f) Errors or Omissions in the Contract Documents.

(g) Coordination of installation tolerances between trades.

6. Ineligible Uses of Construction Contingency

(a) Additional Project management staff.

(b) Weather protection of work or materials for the benefit of subcontractors.

(c) Insurance co-pay (OCIP deductible co-pay) costs.

(d) Work specified in subcontracts.

7. District's Uses of Owner's Allowance

(a) District-requested changes.

(b) District-requested additional work.

(c) Differing site conditions, as defined in General Conditions.

D. **Cost Scoring**: Proposers will be scored based on the sum of the fee proposal components described above and listed in the Schedule of Proposal Prices in the Proposal Form. Fee Proposals will be scored in direct relation to their variance from the lowest fee based on the following formula for a maximum of 25 points:

Price Proposal Score = 25 x (L / P)

Where: P = Short-listed Best and Final Offer Price Proposal amount
L = Lowest, short-listed Best and Final Offer Price Proposal amount

Example:
Proposer No. 1: $1,000,000, Score = 25 x ($1,000,000 / $1,000,000) = 25 points
Proposer No. 2: $1,200,000, Score = 25 x ($1,000,000 / $1,200,000) = 20.833 points
Proposer No. 3: $1,400,000, Score = 25 x ($1,000,000 / $1,400,000) = 17.86 points

9.15 Other Proposal Requirements

The Proposal must contain the following, fully completed (and where applicable, executed) documents. The District will reject as non-responsive any Proposal submitted without these documents:

A. Design-Build Entity Certifications in the form of Attachment 4, signed and completed (and including any attachments) as indicated therein.

B. Non-Collusion Affidavit in the form of Attachment 5, subscribed and sworn before a notary public.

C. A letter from a surety duly licensed to do business in the State of California, having a financial rating from A.M. Best Company of A-IX or better, confirming that surety has agreed to provide Design-Build Entity with performance and payment bonds in accordance with the requirements set forth in the Contract Construction Performance Bond and Construction Labor and Material Payment Bond, with minimum penal sums in the amounts set forth therein.

10.0 PROJECT AWARD AND COMMENCEMENT

10.1 Announcement of Award

Upon completion of District's evaluation of all Proposals, including without limitation all required action by the District's Board of Trustees, District shall rank the responsive Design-Build Entities based on the Evaluation Factors, Ranking and Scoring Methodology in Attachment 7. District will award a contract for Phase 1, Design and Preconstruction Services to the highest scoring Proposer. District shall publicly announce the award of the Contract for the Project by issuing Notice of Award, and by posting Notice of Award on District's website at http://fiscal.marin.edu/bids and by electronically mailing it to all parties who requested that the District provide such notice. The Notice of Award shall include all of the following: (1) the Design-Build Entity to whom the award is made; (2) the successful Design-Build Entity's price proposal and its overall combined rating on the Request for Proposal evaluation factors; (3) the successful Design-Build Entity's ranking in relation to all other responsive Design-Build Entities and their respective price proposals; (4) a summary of District's rationale for the contract award; and (5) any other item the District may elect.

10.2 Post-Notice of Award Requirements

After Notice of Award, the successful Design-Build Entity must submit the required documents specified in the notice to District no later than 5:00 p.m. on the tenth (10th) calendar day following receipt of the notice. Execution of the Contract is dependent upon approval of these documents. The successful DBE should be prepared to commence work immediately following execution of the Contract and receipt of the Notice to Proceed with Design. In the event contract award is unsuccessful with the first selected Proposer, District may choose to award the contract to the next Proposer in the ranking.

10.3 Phase 2 – Construction Services

DBE will provide District a Guaranteed Maximum Price (GMP) Proposal for the Construction Services Phase within approximately 30 days of DSA approval of construction documents. The GMP will be the sum of the following:

A. Design services as needed for construction administration and project close-out;

B. Direct Construction Cost;

C. Construction Contingency (Proposer's percentage applied to Direct Construction Cost);

D. General Conditions (Proposer's percentage applied to Direct Construction Cost and Construction Contingency);

E. Overhead and profit (Proposer's percentage applied to Direct Construction Cost, Construction Contingency and General Conditions);

F. DBE Payment and performance bonds; and

G. Subcontractor Payment & Performance Bonds.

10.4 Failure to Agree to GMP

If District and DBE cannot agree on a GMP, District may terminate Phase 1 (Design and Preconstruction Services), and Phase 2 (Construction Services) will not be awarded to the DBE.

11.0 OTHER TERMS AND CONDITIONS OF THE RFP PROCESS

Pursuant to Education Code section 81703(a)(2)(C)(v) the Board of Trustees of the District reserves the right to hold fair and impartial discussions or negotiations with responsive bidders as specified in the RFP/Q and to accept or reject any or all SOQ/P's, to select a qualified firm with or without interviews and to negotiate with one or more than one of the responsible submitters. Submitters shall be responsible for any and all expenses that they may incur in preparing proposals. Responses received from this RFP will be used as the foundation for the development of an agreement and contract with specific provisions subject to review, negotiations, and approval of the Marin Community College District Board of Trustees.

The District expressly reserves the unqualified right to undertake any of the following if advantageous to the District:

11.1 Accept or reject any or all of the submitted RFPs;

11.2 Waive or decline to waive any and all defects as to form, content, informalities, minor technical inconsistencies and/or irregularities in any RFP or the RFP process;

11.3 Terminate the RFP process at any time;

11.4 Modify and/or suspend any and all aspects of the RFP at any time;

11.5 Reissue the RFP;

11.6 Extend the time frame for submission of the Proposal to any firm the District determines is and/or should be part of the Finalist Group. Any deadlines, if extended, will be communicated through the

issuance of Addenda posted to the District's website at http://fiscal.marin.edu/bids. It is solely a Proposer's obligation to monitor the website for any and all Addenda and the contents thereof;

11.7 Request clarification of information submitted and/or request additional information from any or all submitting Proposers;

11.8 Hold all Proposals for a period of ninety (90) days after the deadline for receipt of Proposals;

11.9 Decline to enter into a contract with any Proposer;

11.10 Conduct personal interviews, negotiations and/or request Best and Final Offers, from any or all Proposers during the RFP process before making selection of the successful DBE;

11.11 The Proposals submitted in response to this RFP will become the property of the District and may be used by the District in any way it deems appropriate;

11.12 While the information submitted in Proposals will become a public record after award of the contracts, The reviewed and audited financial information submitted by a Proposer will remain confidential and will not be disclosed in response to any Public Record Act Request or similar request for information. District will use these documents as part of the basis of scoring and evaluating Proposers. District reserves the right to verify and check information submitted from all other sources available to District. District's decision will be based on objective evaluation criteria as set forth in the RFP Documents;

11.13 Acceptance of any Proposal will take into consideration the reliability of the Proposer, past Documented performance of the Proposer, and all of its proposed team members and sub-consultants, and the appropriateness of the information provided. The District will, in the exercise of its discretion, be the sole judge in the determination of the quality and appropriateness of Proposals. The District's decision will be final;

11.14 All costs for preparation, submission and/or delivery incurred by the Proposer are the sole responsibility of the Proposer and will not be paid by the District. The District will not be liable for any costs incurred in the preparation of Proposals or incidental to the preparation and presentation of Proposals, either orally or in writing. Any costs incurred in the preparation of the Proposal, in the submission of additional information, and/or in any other aspect of the Proposal before the award of the contracts will be borne by the Proposer;

11.15 Proposals that are submitted with conditional clauses, alterations, items not called for by the RFP, or irregularities of any kind are subject to rejection by the District as non-responsive, at its option;

11.16 By submitting a Proposal, the Proposer acknowledges that Proposer has investigated and satisfied itself as to the conditions affecting the work of the Project. The District shall not be responsible for any conclusions or interpretations made by a Proposer of the information made available by the District;

11.17 The submission of a Proposal shall be prima facie evidence that the Proposer has full knowledge of the Scope and nature of the work and services to be performed. The receipt by the District of a Proposal will indicate that the submitting Proposer understands the requirements and shall supply the work and services required;

11.18 The District reserves the right to require that the Proposer demonstrate that Proposer has the skills, equipment, and other resources necessary to satisfactorily perform the nature and magnitude of work and services necessary to complete the Project within the proposed contract/project schedules;

11.19 The Proposer shall furnish the District with such additional information as the District may reasonably require and request;

11.20 The District will require the selected DBE to have a valid California Architect's License and a valid Contractor's B License issued by the state of California, appropriate valid professional licenses, and to provide evidence of appropriate insurance and bonding coverage/capacity;

11.21 At the end of the RFP process, the District will require the selected DBE to enter into a Design Build Contract prepared by the District, a sample of which is found in the Contract Documents in the form of Attachment 2 to this RFP;

11.22 Proposals received after the time and date specified, whether delivered or mailed, may not be considered and may be returned to the Proposer unopened, at the sole discretion of the District. It is the sole responsibility of each Proposer to ensure that its Proposal arrives at the required location before or at the time and date specified;

11.23 No individual or firm responding to this RFP shall obtain any claim or cause of action against the District by reason of any aspect of the RFP, defects or abnormalities contained herein, defects or abnormalities in the selection process, the rejection of any Proposal, the acceptance of any Proposal, any statements, representation, acts or omissions of the District, the exercise of any discretion by the District in connection with any of the foregoing, or any and all other matters arising out of all or any of the foregoing;

11.24 A contract may be awarded to one of the short-listed DBEs through the RFP process. The District Reserves the right to increase the number of Finalists if the District determines it is in the District's best interest to do so;

11.25 Unless requested to do so in writing either in response to a written request for clarification from District or as otherwise permitted by the RFP Documents, Proposers and their Design Team Members, Sub-consultants and Subcontractors shall not communicate, either verbally or in writing, with: (1) any member of the RFP Selection Committee; (2) any consultant or professional retained by the District for the purpose of providing the District or College advice or professional services in respect to the Project, the Request for Proposal process or the Award of the Contract; or (3) any trustee, officer, employee or representative of the District or College with respect to any matter relating to the Project;

11.26 Any Proposer may, at its own expense, conduct investigations of the Sites, including Existing Improvements located on the Sites, provided that: (1) Proposer requests in advance and in writing, and

receives, permission from the District to conduct such investigations, which permission may be granted or withheld by the District in its sole and absolute discretion, but which if permitted for any Proposer will be permitted on the same conditions for all Proposers; (2) Proposer executes Access, Indemnity and Release Agreement in the form of Attachment 2 (Contract Documents) attached hereto and submits it to the District prior to submission of its Design-Builder Proposal; (3) Proposer provides evidence satisfactory to District of appropriate insurance coverage required by the terms of the Access, Indemnity and Release Agreement; and (4) a complete copy of any reports (including, without limitation, all opinions, data and recommendations) generated from Proposer's investigation, if any, is provided to District with the Proposer's submission of its Design-Builder Proposal. Failure by a Proposer to comply with these or any other terms of the Access, Indemnity and Release Agreement may be deemed by District, in its sole discretion, as a material noncompliance with the requirements of the RFP Documents and, as such, grounds for disqualification. Exploration of conditions below the surface of the ground or that involve destructive examination of Existing Improvements will only be allowed if approved in writing by District in advance of their being performed. If such approval of subsurface exploration is given, it shall be conducted under the supervision of a licensed soils or geotechnical engineer;

11.27 The District reserves the right, but shall not have the obligation, after the deadline in the RFP schedule for submission of Design-Build Entity Proposals, to request submittal of Best and Final Offers. If, after receipt and review of one round of Best and Final Offers, the District determines that it is in its best interests to do so, it may request one or more additional round of Best and Final Offers, with or without further Discussions or Negotiations. There is no limit to the number or rounds of Best and Final Offers that may be requested by the District. A request by the District for Best and Final Offers shall be in writing and accompanied by (if necessary) any additional instructions to the Proposers regarding the procedures, content, format, and timing for submission thereof. If a request for Best and Final Offers is made by District, each Proposer shall thereafter submit a Best and Final Offer prior to the deadline set forth in the District's written request. If a Proposer in response to a request by District for submission of Best and Final Offers intends to make no change to its DBE Proposal as amended by any prior-submitted Best and Final Offer, then such Proposer shall include in its Best and Final Offer a statement that (1) identifies, by title and date of submission to District, its DBE Proposal and all prior-submitted Best and Final Offers and (2) referring to such DBE Proposal and prior-submitted Best and Final Offers, states that there is "no change" thereto. If a Proposer in response to a request by District for Best and Final Offers intends to submit a Best and Final Offer that involves a change, addition or deletion to any portion of its DBE Proposal or to a Best and Final Offer previously submitted by the Proposer, then the Proposer shall include in its Best and Final Offer a statement that (1) identifies, by title and date of submission to District, its DBE Proposal and all prior-submitted Best and Final Offers and (2) sets forth by reference to page, paragraph and line of the portion of the DBE Proposal or any prior-submitted Best and Final Offer being amended, all of the words being deleted from and/or added to the DBE Proposal and prior-submitted Best and Final Offer. Best and Final Offers shall include an acknowledgement of any RFP Addenda issued after the deadline in the RFP schedule for submission of DBE Proposals and prior to the deadline for submission of such Best and Final Offer. Best and Final Offers shall comply with the requirements of this RFP;

11.28 Following the ranking of proposals after submission of Best and Final Offers, the District may, at its sole discretion, elect to proceed with award of the Contract without negotiations, or it may proceed with negotiations with the Proposers. Negotiations may involve any aspect of Proposer's Proposal (Technical or Fee Proposal) and any provision of the Contract Documents including scope of work,

terms and conditions. The District may also initiate negotiations to reduce costs to meet budget. Because the District has the right to award the Contract without negotiations, all Proposers must commit to entering into the Contract based upon their Proposals submitted in response to this RFP. Any decision to commence negotiations regarding the Contract and any topics of negotiation are at the District's sole discretion;

11.29 The District reserves the right, but shall not have the obligation, to conduct Post-Scoring Discussions. Post-Scoring Discussions may be conducted with some or all Proposers. Post-Scoring Discussions are conducted after final scoring of the DBE Proposals or Best and Final Offers, for the limited purpose of clarifying a DBE Proposal or its Best and Final Offers. Post-Scoring Discussions are not to be used to permit changes to a DBE Proposal or a Best and Final Offer;

11.30 District reserves the right at any time to request in writing from any Proposer, or all Proposers, clarification of any information contained in a DBE Proposal or Best and Final Offers. Requests for clarifications are discretionary with the District and, although they generally are used only if Discussions or Negotiations are not conducted, may be issued at any time (whether or not Discussions or Negotiations are conducted) after the deadline in the RFP schedule for receipt of DBE Proposals and prior to Award. Nothing stated herein or elsewhere in the RFP Documents shall be interpreted as obligating the District to request further clarification from any Proposer or as obligating the District to seek the same or similar clarification from other or all Proposers. Requests by the District for clarification shall be responded to by the Proposer to whom they are directed within three (3) Days after the date of receipt thereof by the Proposer. Responses to such requests by District shall be limited to clarifying the portion of the DBE Proposal or Best and Final Offer described in the District's request. Responses shall not include changes to a DBE Proposal or a Best and Final Offer. Information provided in a response to a request for clarification that does not comply with the requirements of this paragraph will not be considered;

11.31 Without limitation to any of the District's other rights under the RFP Documents or Applicable Laws, the District reserves the right to reject any DBE Proposal that contains any information that is false, incorrect, materially incomplete or misleading, is not accompanied by documents required by the RFP Documents to be submitted with a DBE Proposal, or is in any way incomplete or irregular. The District further reserves the right, before or after evaluation and scoring of DBE Proposals or Best and Final Offers, to withdraw its Request for Proposal and/or reject all DBE Proposals or Best and Final Offers;

11.32 Award of the Contract is subject to availability of funds. In the event that funds are not available, District shall have the right, without any liability to any Proposer, to decline to execute the Contract;

11.33 No changes in or additions to DBE Team Members shall be permitted at any time during the RFP process, except with the prior written authorization of the District, which authorization may be granted or withheld in the District's sole and absolute discretion;

11.34 Consultants or Sub-consultants to the District who (1) are participants or advisors to the District or College in respect to the design-build competition for the Project(s), or (2) provide professional services and advice to the District or College in respect to any other project being proposed for construction, or under construction, at the campus of the College where the Project is to be

constructed, shall not be allowed to participate as a DBE Team Member or as a Sub-consultant or Subcontractor, of any Tier, to a DBE;

11.35 All DBE Proposals and Best and Final Offers must be submitted, filed, made and executed in accordance with Applicable Laws (including, without limitation, California Education Code Sections 81700 *et seq*.), whether the same are expressly referred to herein or not;

11.36 Proposers shall identify in their DBE Proposals and Best and Final Offers any portions thereof with respect to which the Proposer holds any patent right, including, without limitation, the number and date of issuance of the patent;

11.37 DBE Proposals and Best and Final Offers are nontransferable and cannot be assigned;

11.38 District reserves the right, exercised in its sole discretion, prior to Award, to unilaterally change, by addition, modification or deletion, any of the terms of the Contract Documents or General Conditions by issuance of an RFP Addendum setting forth the substance of such change;

11.39 DBE Proposals and Best and Final Offers shall not contain, nor be conditioned upon acceptance of, any exceptions, changes or additions to the terms and conditions of the DBE Contract Documents or General Conditions, other than changes that have been approved and ordered by District by means of a previously issued RFP Addendum. Statements contained in a DBE Proposal or Best and Final Offer to the effect that a price is based on certain "assumptions" that are not part of the specific requirements of the RFP Documents shall be deemed to constitute an impermissible qualification in violation of the requirements of this paragraph and be grounds for disqualification;

11.40 Following Award of Contract, District may prepare a conformed Project Manual reflecting Addenda issued during proposal period, which will, failing objection, constitute the approved Project Manual;

11.41 Failure to execute the agreement within the timeframe identified in Notice of Award shall be sufficient cause for voiding the award. Failure to comply with other requirements within the set time shall constitute failure to execute the agreement. If the selected Proposer refuses or fails to execute the contract, District may award the contract to the next qualified, highest-ranked Proposer;

11.42 **PROPOSAL PROTEST**. Any Proposal Protest must be submitted in writing to the District's main office (Attention Greg Nelson, Vice President Finance and College Operations, 1800 Ignacio Boulevard, Novato, CA 94949) before 5:00 p.m., no later than the sixth calendar day following posting of Notice of Intent to Award. Any Proposal Protest received after the deadline as described herein shall be deemed null and void.

a. The initial Protest document must contain a complete statement of the basis for the Protest.

b. The Protest must refer to the specific portion of the document that forms the basis for the Protest, and must describe in detail the specific errors allegedly committed by the District in evaluating the protesting Design-Build Entity's Proposal (or with regard to any other Design- Build Entity's Proposal).

c. The Protest must contain the name, address and telephone number of the person or entity representing the protesting party.

d. The party filing the Protest must transmit a copy of the initial Protest document and any attached documentation concurrently to all other parties having a potential direct financial interest that may be adversely affected by the outcome of the Protest. Such parties shall include all other Design-Build Entities that appear to have a reasonable prospect of receiving an award depending upon the outcome of the Protest.

e. The procedure and time limits set forth in this paragraph are mandatory and are the Design- Build Entity's sole and exclusive remedy in the event of Proposal Protest. The Design-Build Entity's failure to promptly comply with these procedures shall constitute a waiver of any and all rights to further pursue the Proposal Protest, including without limitation filing a Government Code Claim or instituting legal proceedings. A Design-Build Entity may not rely on a Protest submitted by another Design-Build Entity, but must timely pursue its own Protest.

11.43 Except as set forth herein, all abbreviations and definition of terms used in these Instructions are set forth in General Conditions (References and Definitions) of the Contract Documents.

- End of Request for Proposals -

Indian Valley Campus Map and Directory

College of Marin
Indian Valley Campus
1800 Ignacio Blvd.
Novato, CA 94949

Emergency:
Dial 911

Urgent: 415.485.9696

IVC Police Business Phone: 415.883.3179

Parking
Vehicles on campus are subject to parking and traffic regulations by the Board of Trustees, Marin Community College District. All cars must have a parking sticker, or display a daily parking permit which may be purchased from the parking ticket dispenser. **Motorcycle and handicap parking are available with no fee.**

Parking permits are required at all times, except Saturdays, Sundays, and school holidays.

BUILDING 27 (new main building)
Student Services (Rooms 103-109
(Admissions, Fin. Aid, Counseling)
EMT (Room 112)
General Classrooms (Rooms 116, 118)
Internet Café (Room 121)
Media Resource Center (Room 124)
Computer Classroom (Room 125)
Multimedia (Rooms 129-131)
Medical Assisting (Room 219)
Dental Assisting (Rooms 220, 224)
Court Reporting (Rooms 228, 229, 233)

POMO (PM)
1. Trans Tech Auto Collision Repair Lab
2. Trans Tech Auto Technology Lab
3. General Classrooms/Labs/Offices/ Food Vending (Rooms 150-154, 250-263)
4. Machine & Metals Tech (Rooms 160-175)
5. SIM Center (Rooms 180-189)
6. General Classrooms/Labs/Offices (Rooms 100-119, 200-218)
7. General Classrooms & Offices (Rooms 190-199)

ADMINISTRATIVE SERVICES (AS)
8. Fiscal Services
9. Fiscal Services, College Operations, Health Center
10. Emeritus Meeting Room/ Modernization Office
11. Information Systems Center
12. Child Development Program: Classroom, Children's Center, and Early Head Start Infant Toddler Center

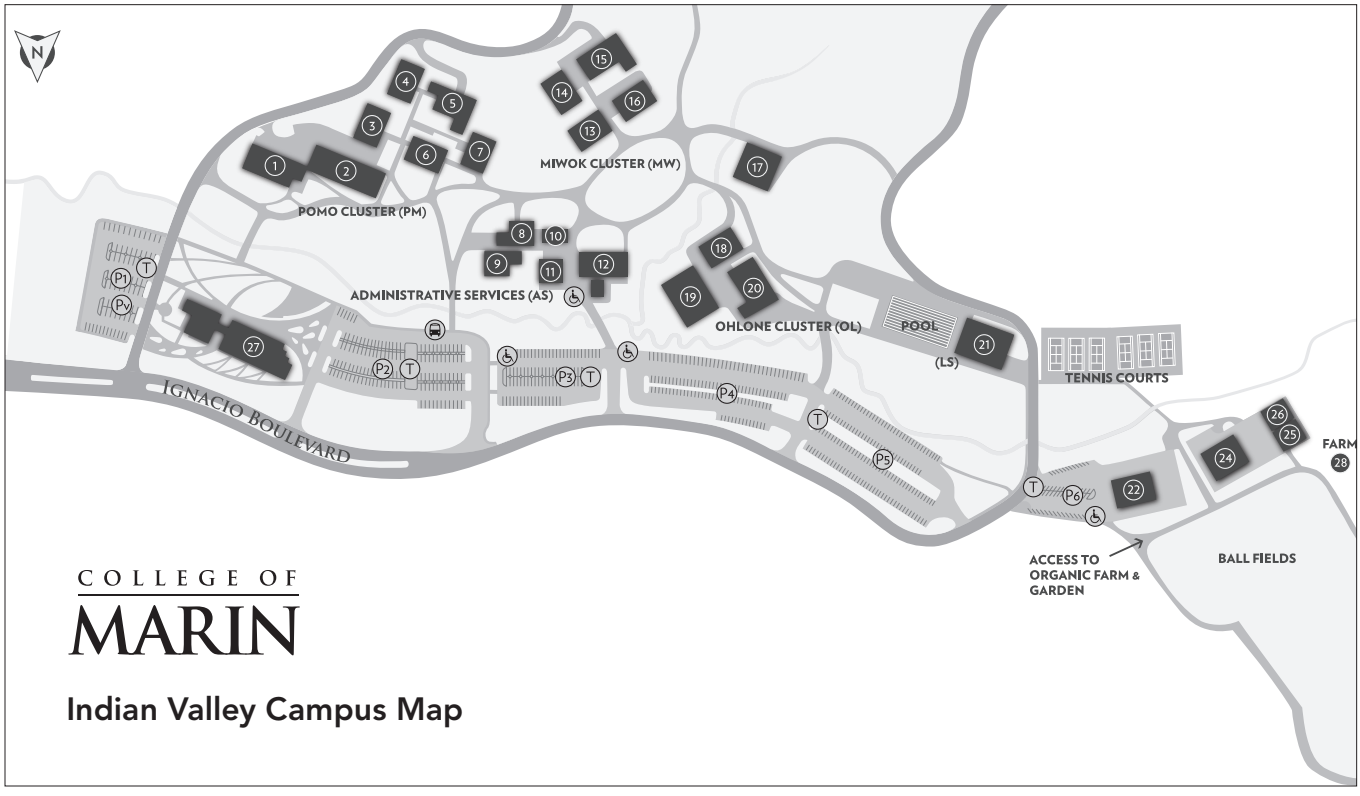
MIWOK (MW)
13. Offices/General Classrooms (Rooms 120-122, 226)
14. Computer Lab (Rooms 140-144)
15. Conference Center/Lecture/ Board Meetings (Room 181) Dance (Room 170) Vending Machines
16. Classrooms/Offices/Env. Landscape/ Center for Sustainable Horticulture (Rooms 101-117, 202-217)

BUILDING 17
17. Career Study Center/Math, English, Computer Labs

OHLONE (OL)
18. Computer Labs (Rooms 120-135)
19. General Classrooms/Labs/ Offices/Computer Lab Comm. Ed/ Intensive English Program (Rooms 141-164, 202-223)
20. Food Vending/PE/DSPS PE/ Classrooms (Rooms 101-106)
21. Pool/Shower-Locker Bldg.
22. Campus Police/Corporation Yard
24. Maintenance

ORGANIC FARM
25. Greenhouse
26. Shade Structure
28. Farm

REST ROOMS:
Buildings 5, 6, 9, 11, 13. 15, 17, 19, 20, 27



DESIGN-BUILD CONTRACT BETWEEN
MARIN COMMUNITY COLLEGE DISTRICT AND [INSERT NAME OF CONTRACTOR]
FOR NEW JONAS CENTER PROJECT

This Design-Build Contract ("Contract") is made and entered into this ___ day of _____, 2017 ("Effective Date"), by and between MARIN COMMUNITY COLLEGE DISTRICT (the "District"), and [INSERT NAME OF CONTRACTOR] (the "Design-Build Entity"), for the purpose of designing and constructing the NEW JONAS CENTER PROJECT (the "Project"). The District and the Design-Build Entity are herein collectively referred to as the "Parties."

RECITALS

A. District desires to contract with a single entity for design and construction of the Project, as set forth in this Contract.

B. District conducted a Request for Proposals ("RFP") process in accordance with Government Code section 81700, *et seq*. to solicit qualified Design-Build Entities.

C. The Design-Build Entity submitted a Proposal for the Project, which was selected as providing the best-value for the Project, and is prepared to enter into this Contract.

In consideration of the above recitals and the mutual covenants and conditions set forth herein, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby set forth their mutual covenants and understandings as follows:

TERMS

1. Incorporation of Documents.

This Contract includes and hereby incorporates in full by reference the following Contract Documents, including all exhibits, drawings, specifications and documents therein, and attachments and addenda thereto:

a. Contract, including the final Construction Documents
b. Attachment 1 to this Contract – Initial and Final Approved Scope
c. Attachment 2 to this Contract - General Conditions
d. Attachment 3 to this Contract – Performance Bond
e. Attachment 4 to this Contract – Payment Bond
f. Attachment 5 to this Contract – Rate Schedule
g. Attachment 6 to this Contract – Warranties
h. Attachment 7 to this Contract – Worker's Compensation Certification
i. Attachment 8 to this Contract – Asbestos & Other Hazardous Materials Certification
j. Attachment 9 to this Contract – Lead Product(s) Certification

k. Attachment 10 to this Contract – Request for Proposal/Qualification

2. Acknowledgement of Contract Documents.

The above documents constitute and may hereinafter be referred to as the "Contract Documents." In addition to signing this Contract, the Design-Build Entity shall review and execute where appropriate all the Attachments to this Contract described above.

3. The Design-Build Entity's Basic Obligations.

a. The Design-Build Entity promises and agrees, at its own cost and expense, to furnish to the District all labor, materials, tools, equipment, services, and incidental and customary work necessary to fully and adequately complete the Project as described in the Contract Documents (hereinafter the "Scope of Work"), for a Guaranteed Maximum Price ("GMP") of Dollars ($ _____). Unless otherwise stated in the Contract Documents, the GMP shall pay for all costs and expenses required to design and construct the Project.

b. The Design-Build Entity shall comply with the Education Code which mandates that no construction or alteration of any school building commence prior to the receipt of the written approval of the plans by the Division of the State Architect ("DSA").

4. Extra Work.

Extra Work shall have the meaning given to it in the General Conditions. Extra Work shall be initiated only upon written approval by the District as described in the General Conditions. Extra Work shall be compensated in accordance with Article 7 of Attachment 2 "General Conditions."

5. Standard of Performance.

The Design-Build Entity's performance shall be consistent with the standards set forth in the Contract and the General Conditions.

6. Period of Performance and Liquidated Damages.

a. The Design-Build Entity guarantees that it shall perform and complete all work necessary for Final Completion of the Project, as defined in the General Conditions, by the Guaranteed Completion Date of ("GCD").

b. The Design-Build Entity agrees that liquidated damages will apply in the amount as follows: Liquidated damages are One Thousand Five Hundred dollars ($1,500.00) for each calendar day that the Project extends beyond the Substantial Completion Date and Five Hundred dollars ($500.00) for each calendar day that the Project extends beyond the Final Completion date. The liquidated damages shall be recoverable by the District in addition to any amounts owed under the Contract Documents.

7. The District's Basic Obligations.

The District agrees to engage and does hereby engage the Design-Build Entity as an independent contractor to furnish all materials and to perform all work described in the Scope of Work for the Project according to the terms and conditions herein contained for the GMP set forth above. Except as otherwise provided in the Contract, the District shall pay to the Design-Build Entity, as full consideration for the satisfactory performance by the Design-Build Entity of the services and obligations required by this Contract, the above referenced compensation in accordance with compensation provisions set forth in the Contract.

8. District's Representative.

The District hereby designates Greg Nelson V.P. Finance and College Operations, Fiscal Services Department, or his designee, as the person to act as its representative for the performance of this Contract ("District's Representative"). The District's Representative shall be authorized to act as liaison between District and the Design-Build Entity in the administration of this Contract and all work on the Project. The District's Representative shall have the power to act on behalf of the District for all purposes under this Contract. District may designate new and/or different individuals to act as District's Representative from time to time upon written notice to the Design-Build Entity.

9. Design-Build Entity's Representative.

The Design-Build Entity hereby designates [INSERT NAME], or his or her designee, to act as its representative for the performance of this Contract ("Design-Build Entity's Representative"). Design-Build Entity's Representative shall have full authority to represent and act on behalf of the Design-Build Entity for all purposes under this Contract. The Design-Build Entity's Representative shall supervise and direct all work on the Project, using his best skill and attention, and shall be responsible for all means, methods, techniques, sequences and procedures and for the satisfactory coordination of all portions of the work pursuant to this Contract.

10. Design-Build Entity's Licensing.

The Design-Build Entity shall have only appropriately licensed contractors performing work on the Project as required by the Business and Professions Code. The Design-Build Entity (License No. _____) shall act as the licensed contractor for the Project. Design-Build Entity shall perform all services required under the Contract Documents in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals qualified to perform such services in the same discipline in the State of California, and the Design-Build entity shall be fully responsible to the District for any damages and/or delays to the Project as specified in the indemnification provisions of the Contract.

11. Design-Build Entity's Design Professional.

The Design-Build Entity shall name a specific person to act as the Design Professional as described in the General Conditions, subject to the approval of the District. The Design-Build Entity hereby designates [INSERT NAME] (License No. _____) to act as the Design Professional for the Project. Design-Build Entity's Design Professional shall perform all services required under the Contract Documents in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals qualified to perform such services in the same discipline in the State of California, and the Design-Build entity shall be fully responsible to the District for any damages

and/or delays to the Project as specified in the indemnification provisions of the Contract. Any change in the Design Professional shall be subject to the District's prior written approval, which approval shall not be unreasonably withheld. The new Design Professional shall be of at least equal competence as the prior Design Professional. If District and Design-Build Entity cannot agree as to the substitution of a new Design Professional, the District shall be entitled to terminate this Contract as described in the General Conditions.

12. Design-Build Entity's Indemnification.

The Design-Build Entity agrees to protect, save, defend and hold harmless, to the greatest extent provided by law, the District, its governing board and each member thereof, their officers, agents and employees from any and all claims, liabilities, reasonable expenses or damages of any nature, including reasonable attorneys' fees, for injury or death of any person, or damage to property, or from third party claims' interference with the use of property, arising out of the negligent acts, errors or omission, or willful misconduct by the Design-Build Entity, the Design-Build Entity's agents, officers, employees, sub-consultants, or independent consultants hired by the Design-Build Entity to provide services pursuant to this Contract. The only exception to the Design-Build Entity's responsibility to protect, save, defend and hold harmless the District is where a claim, liability, expense or damage occurs due to the sole negligence, willful misconduct or active negligence of the District. This hold harmless provision shall apply to all liability, as provided for above, regardless of whether any insurance policies are applicable. Insurance policy limits do not act as a limitation upon the amount of the indemnification to be provided by the Design-Build Entity. Notwithstanding the foregoing, to the extent Design-Build Entity's Scope of Work is subject to Civil Code Section 2782.8, the above indemnity shall be limited, to the extent required by Civil Code Section 2782.8, to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Design-Build Entity. In claims against any person or entity indemnified under this provision, that are made by an employee of the Design-Build Entity or any Subcontractor, a person indirectly employed by the Design-Build Entity or any Subcontractor, or anyone for whose acts the Design-Build Entity or any Subcontractor may be liable, the indemnification obligation under this provision shall not be limited by any limitation on amount or type of damages, compensation, or benefits payable by or for Design-Build Entity or any Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts or any other insurance limitations. The indemnification obligations under this provision shall not be limited by any assertion or finding that the person or entity indemnified is liable because of a non-delegable duty. Joint and several liability shall apply to the Design-Build Entity. In the event the Design-Build Entity and one or more than one other party relates to an accident or occurrence covered by this indemnification, then all such parties shall be jointly and severally responsible to each of the Indemnitees for indemnification, and the ultimate responsibility among such indemnifying parties for the loss and expense of any such indemnification shall be resolved without jeopardy to any indemnitee listed herein.

13. Prevailing Wages.

The Design-Build Entity shall comply with the prevailing wage provisions of the California Labor Code and the prevailing wage rate determinations of the Department of Industrial Relations. These rates are on file at the District offices and copies will be provided to the Design-Build Entity on request. A copy of these rates shall be posted at the job site. It shall be mandatory upon the Design-Build Entity and all subcontractors to comply with all Labor Code provisions, which include but are not limited to

prevailing wages, employment of apprentices, hours of labor, and debarment of the Design-Build Entity's and subcontractor.

14. Program Stabilization Agreement.

The Design-Build Entity shall comply with the requirements of this agreement as indicated in the Program Stabilization Agreement for this Project.

15. Attorneys' Fees.

If either party commences an action against the other party, either legal, administrative or otherwise, arising out of or in connection with this Contract, the each party in such action shall be responsible for its own attorneys' fees and shall not recover from the losing party its attorneys' fees or any other costs of such action.

16. Successors.

The parties do for themselves, their heirs, executors, administrators, successors, and assigns agree to the full performance of all of the provisions contained in this Contract. The Design-Build Entity may not either voluntarily or by action of law, assign any obligation assumed by the Design-Build Entity hereunder without the prior written consent of the District.

17. Notices.

All notices hereunder and communications regarding interpretation of the terms of the Agreement or changes thereto shall be provided by the mailing thereof by registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

DESIGN-BUILD ENTITY

[INSERT NAME AND ADDRESS]]

MARIN COMMUNITY COLLEGE DISTRICT

ATTN: GREG NELSON

1800 IGNACIO BLVD., NOVATO CA 94949

Any notice so given shall be considered received by the other party three (3) days after deposit in the U.S. Mail, first class postage prepaid, addressed to the party at the above address. Actual notice shall be deemed adequate notice on the date actual notice occurred, regardless of the method of service.

18. Attachments.

All Attachments referenced in this Contract are incorporated into the Contract by this reference.

19. Recitals.

The above referenced recitals are true and correct and are incorporated into this Contract by this reference.

20. <u>Authority of Signatories.</u>

The persons executing this Contract on behalf of their respective Parties represent and warrant that they have the authority to do so under law and from their respective Parties.

[SIGNATURES CONTINUED ON NEXT PAGE]

Entered into as of the Effective Date first above written, the Parties hereby execute this Design-Build Agreement, as follows:

DESIGN-BUILD ENTITY:	**DISTRICT:**
[INSERT NAME]	**MARIN COMMUNITY COLLEGE DISTRICT**
By: _____	By:_____
Name: _____	Name: _____
Title: _____	Title: _____

Federal Tax Identification No.: _____

ATTACHMENT 4

MARIN COMMUNITY COLLEGE DISTRICT

NON-COLLUSION AFFIDAVIT TO BE EXECUTED AND RETURNED WITH PROPOSAL
(Public Contract Code Section 7106)

_____, deposes and says that
Authorized Representative

he/she is _____ of _____
Title *Contractor/Company Name,*

the party providing the foregoing proposal; that the proposal is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the proposal is genuine and not collusive or sham; that the respondent has not directly or indirectly colluded, conspired, connived, or agreed with anyone else to put in a sham proposal; that the respondent has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the proposal price, or to fix any overhead, profit, or cost element of the proposal price, or of that of any other respondent, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the proposal are true; and, further, that the respondent has not, directly or indirectly, submitted his or her price or any breakdown thereof, or the contents thereof, or divulged information of date relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, proposal depository, or to any member of agent thereof to effectuate a collusive or sham proposal.

_____
Signature

_____
Typed or Printed Name

GENERAL CONDITIONS DESIGN-BUILD CONTRACT

BETWEEN

MARIN COMMUNITY COLLEGE DISTRICT

AND

[INSERT NAME]

FOR THE NEW JONAS CENTER

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GENERAL CONDITIONS DESIGN-BUILD CONTRACT
BETWEEN MARIN COMMUNITY COLLEGE DISTRICT AND
[INSERT NAME] FOR THE NEW JONAS CENTER

ARTICLE 1. GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1 ACT OF GOD. The term "Act of God" shall include earthquakes in excess of a magnitude of 3.5 on the Richter Scale, tidal waves, floods, unusually severe weather, epidemic, or other severe natural disaster.

1.1.2 ALLOWANCES. The term "Allowances" shall mean the allocation of the cost of work for each individual line item, which is identified as an "Allowance" in the Cost Breakdown/Schedule of Values. Each Allowance line item shall be adjusted, either up or down, based on the actual bid amount for each such line item as defined in the Contract Documents. Any adjustment to an Allowance shall be reflected in a Change Order.

1.1.3 APPLICABLE CODE REQUIREMENTS. The term "Applicable Code Requirements" means all laws, statutes, the most recent building codes, ordinances, rules, regulations, and lawful orders of all public authorities having jurisdiction over the District, the Design-Build Entity, any Subcontractor, the Project, the Project site, or the prosecution of the work on the Project.

1.1.4 APPLICATION FOR PAYMENT. The term "Application For Payment" means the submittal from the Design-Build Entity wherein payment for certain portions of the completed work on the Project is requested in accordance with Article 9.

1.1.5 CEQA. The term "CEQA" means the California Environmental Quality Act, Public Resources Code Section 21000 *et seq*. All CEQA compliance documentation prepared for the Project by the District shall be provided to the Design-Build Entity, upon request.

1.1.6 CERTIFICATE OF FINAL COMPLETION. See Section 9.8, Final Completion, of the General Conditions.

1.1.7 CERTIFICATE OF SUBSTANTIAL COMPLETION. See Section 9.6, Substantial Completion, of the General Conditions.

1.1.8 CHANGE ORDER. The term "Change Order" means a Contract Document which authorizes, in accordance with Article 7, one or more of the change(s) stated in Subsection 7.2.1 and Subsection 7.2.2.

1.1.9 CHANGE ORDER REQUEST. The term "Change Order Request" means a proposal for a Change Order submitted by the Design-Build Entity to the District, either at the request of the District, or at the Design-Build Entity's own initiative.

1.1.10 CLAIM. See Section 4.3, Claims, of the General Conditions.

1.1.11 CONSTRUCTION DOCUMENTS. The term "Construction Documents" shall mean the plans and specifications prepared by the Design-Build Entity for the Project, approved by the District. The Construction Documents shall set forth in detail all items necessary to complete the construction (other than such details customarily provided by others during construction) of the Project in accordance with the Contract Documents (subject to their

completion following commencement of the Construction Phase). All amendments and modifications to the Plans and Specifications must be approved by the District in writing.

1.1.12 CONSTRUCTION DOCUMENTS PHASE. The term "Construction Documents Phase" shall mean the second of three phases of the Scope of Work and will commence with the issuance of the approval of the Schematic Design Phase.

1.1.13 CONSTRUCTION PHASE. The term "Construction Phase" shall mean the third phase of the Scope of Work and will commence upon final approval of the plans and specifications by the Division of the State Architect ("DSA"). No construction or alteration of any school building shall commence prior to the receipt of the written approval of the plans by DSA.

1.1.14 CONSTRUCTION WORK. The term "Construction Work" shall mean that portion of the work on the Project consisting of the provision of labor, materials, furnishings, equipment and services in connection with the construction of the Project as set forth in the Contract Documents.

1.1.15 CONTRACT. The term "Contract" means the written agreement between the Design-Build Entity and the District set forth in the Contract Documents.

1.1.16 CONTRACT DOCUMENTS. The "Contract Documents" consist of the following:

1.1.16.1 Request for proposals ("RFP") and all addenda, attachments and appendices;

1.1.16.2 Construction Documents, as defined herein;

1.1.16.3 Contract;

1.1.16.4 General Conditions;

1.1.16.5 Criteria Documents;

1.1.16.6 Performance Bond;

1.1.16.7 Payment Bond;

1.1.16.8 Required Certifications and Forms.

1.1.17 CONTRACT SCHEDULE. The term "Contract Schedule" means the graphical representation of a practical plan to complete the work on the Project within the Guaranteed Completion Date as a part of the Master Project Schedule. The Detailed requirements for the Contract Schedule are stated in Article 3.

1.1.18 COST BREAKDOWN. See Section 9.1.1. A Cost Breakdown/Schedule of Values for each phase of work shall be submitted by the Design-Build Entity as required by these General Conditions and are incorporated into the Contract Documents by reference. The Cost Breakdown shall include a list of Allowances along with a statement of their basis.

1.1.19 CRITERIA DOCUMENTS. The term "Criteria Documents" means, but is not limited to, the portions of the Contract Documents which constitute an outline of design requirements, Scope of Work, Project Program, Performance Specifications and schematic drawings.

1.1.20 DAY. The term "day," shall mean calendar day, unless otherwise specifically provided.

1.1.21 DEFECTIVE WORK. The term "Defective Work" means work that is unsatisfactory, faulty, omitted, incomplete, deficient, or does not conform to the requirements of the Contract Documents, directives of the District's Representative, or the requirements of any inspection, reference standard, test, or approval specified in the Contract Documents.

1.1.22 DESIGN-BUILD ENTITY. The term "the Design-Build Entity" means the person or firm identified as such in the Contract and is referred to throughout the Contract Documents as if singular in number.

1.1.23 DESIGN-BUILD ENTITY REPRESENTATIVE. The Design-Build Entity Representative shall mean the person or firm identified as the primary contact person and representative of the Design-Build Entity as designated in the Contract.

1.1.24 DESIGN MATERIALS. The term "Design Materials" shall mean any and all documents, shop drawings, electronic information, including computer programs and computer generated materials, data, plans, drawings, sketches, illustrations, specifications, descriptions, models and other information developed, prepared, furnished, delivered or required to be delivered by, or for, the Design-Build Entity: (1) to the District under the Contract Documents or; (2) developed or prepared by or for the Design-Build Entity specifically to discharge its duties under the Contract Documents.

1.1.25 DESIGN PROFESSIONAL. The term "Design Professional" shall mean that person identified in the Contract that is licensed in the State of California and is part of or retained by the Design-Build Entity.

1.1.26 DESIGN WORK. The term "Design Work" shall mean the portion of the work on the Project consisting of the Design services and design deliverables required to be provided in connection with the Design of the Project as set forth in the Contract Documents.

1.1.27 DISTRICT. The term "District" shall mean the MARIN COMMUNITY COLLEGE DISTRICT.

1.1.28 DISTRICT'S REPRESENTATIVE. The term "The District's Representative" means the person or firm identified as the Design-Build Entity's primary contact person as designated in the Contract. Design-Build Entity reserves the right to review and approve qualifications of the District Representative, which consent cannot be unreasonably withheld.

1.1.29 DRAWINGS. The term "Drawings" means the graphic and pictorial portions of the Contract Documents showing the design, location, and dimensions of the work to be done on the Project, generally including plans, elevations, sections, details, schedules, and diagrams prepared as part of the Design Materials. The Drawings are listed in the List of Drawings.

1.1.30 EQUIPMENT MANUFACTURER. The term "Equipment Manufacturer" shall mean any Separate Contractor that fabricates and/or supplies any of the District's provided equipment which is installed in the Project by the Design-Build Entity.

1.1.31 EXCUSABLE DELAY. The term "Excusable Delay" means a delay that meets the requirements of Articles 7 and 8 of these General Conditions, and may entitle the Design-Build Entity to an adjustment of the Guaranteed Completion Date and/or an adjustment to the Guaranteed Maximum Price, as specified in Articles 7 and 8 herein.

1.1.32 EXTRA WORK. The term "Extra Work" means work beyond or in addition to the work required by the Contract Documents, pursuant to Article 7 of the General Conditions.

1.1.33 FIELD ORDER. The term "Field Order" means a directive as described in Article 7 of the General Conditions.

1.1.34 FINAL COMPLETION. The term "Final Completion" means the point at which the work on the Project has been fully completed in accordance with the Contract Documents as determined by the District's Representative pursuant to Section 9.8, Final Completion and Final Payment, of the General Conditions. Final Completion shall mean that point at which the Project has been successfully commissioned and is operational, Substantial Completion has been achieved, all punchlists have been completed to the satisfaction of the District, all documentation has been delivered to the District and all other Contract items have been completed, delivered and accepted by the District.

1.1.35 GOVERNMENTAL APPROVALS. Term "Governmental Approvals" means those governmental (including agency) actions required to be obtained by the District and necessary for the completion of the Project.

1.1.36 GUARANTEE TO REPAIR PERIOD. See Section 12.2, Correction of Defective Work and Guarantee To Repair Period, of the General Conditions.

1.1.37 GUARANTEED COMPLETION DATE. The term "Guaranteed Completion Date" also referred to as "GCD" herein, shall mean the date by which the Design-Build Entity guarantees that all work described in the Scope of Work shall be completed, as is set forth in Section 7 of the Contract.

1.1.38 GUARANTEED MAXIMUM PRICE. The term Guaranteed Maximum Price" also referred to as "GMP" herein, shall mean the guaranteed maximum price the District will pay for the completion of all work described in the Scope of Work as is set forth in Section 3 of the Contract.

1.1.39 HAZARDOUS MATERIALS. The term "Hazardous Materials" means any substance: the presence of which requires investigation or remediation under any federal, state or local law, statute, regulation, ordinance, order, action, policy, or common law; which is or becomes defined as a "hazardous waste," "hazardous substance," pollutant, or contaminant under any federal, state or local law, statute, regulation, rule or ordinance, or amendments thereto, including, without limitations, the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. Section 9601 *et seq*. ("CERCLA"), as amended, or the Resource, Conservation and Recovery Act, as amended, 42 U.S.C. Section 6901 *et seq*. ("RCRA"); which is petroleum, including crude oil or any fraction thereof not otherwise designated as a "hazardous substance" under CERCLA including, without limitation, gasoline, diesel fuel, or other petroleum hydrocarbons; which is toxic, explosive, corrosive, flammable, infectious, radioactive, carcinogenic, mutagenic, or otherwise hazardous and is or becomes regulated by any regulatory agency or instrumentality or the United States; the presence of which on the Site causes or threatens to cause a nuisance upon the Site or to the adjacent properties or poses or threatens to pose a hazard to the health or safety of persons on or about the Site; the presence of which on adjacent properties could constitute a trespass by the Design-Build Entity or the District; or as defined in the California Health and Safety Code. For the purposes of this Contract, "Hazardous Materials" shall also include, but are not limited to, "Underground Storage Tanks." "Underground Storage Tank" shall have the definition assigned to that term by Section 9001 of RCRA, 42 U.S.C. Section 6991, and also shall include: any tank of one thousand one hundred (1,100) gallons or less capacity used for

storing motor fuel; any tank used for storing heating oil for consumption on the premises where stored; any septic tank; and any pipes connected to the above items.

1.1.40 INEXCUSABLE DELAY. The term "Inexcusable Delay" means any delay other than an Excusable Delay, as described in Articles 7 and 8 of these General Conditions, that does not entitle the Design-Build Entity to an adjustment of the Guaranteed Maximum Price and does not entitle the Design-Build Entity to an adjustment of the Guaranteed Completion Date.

1.1.41 LIQUIDATED DAMAGES. The term "Liquidated Damages" shall mean the penalty due by the Design-Build Entity for each and every calendar day beyond the GCD that Substantial Completion of the Project has not been achieved as described in Section 4.3 of the RFP.

1.1.42 LOSSES. The term "Losses" means any and all losses, costs, liabilities, claims, damages, and expenses; provided, however, that Losses shall not mean special, indirect, consequential damages.

1.1.43 NOTICE TO PROCEED. The term "Notice to Proceed" shall mean the written notice given by the District to the Design-Build Entity advising that the Site is available to the Design-Build Entity and directing the Design-Build Entity to commence work on the Project.

1.1.44 OPERATIONS AND MAINTENANCE AGREEMENT. The term "Operations and Maintenance Agreement" or "O&M Agreement" shall have that meaning as set forth in Section 3.5 herein.

1.1.45 PERFORMANCE CRITERIA. The term "Performance Criteria" shall refer to the total kilowatt hours per year that the Project is expected to generate pursuant to Section 3.29 herein.

1.1.46 PERFORMANCE GUARANTEE AGREEMENT. The term "Performance Guarantee Agreement" or "PeGu Agreement" shall have that meaning as set forth in Section 3.18.2 herein.

1.1.47 PROJECT. The term "Project" means the New Miwok Center as approved and authorized by the District as set forth herein which may be the whole, or a part, and which may include separate design or construction work performed by the District or by Separate Contractors.

1.1.48 PROPOSAL. The term "Proposal" means the proposal submitted by the Design-Build Entity in response to the Request for Proposal for this Project.

1.1.49 RATE SCHEDULE. The term "rate schedule" means the rates for Extra Work as set forth in Attachment 5 to the Contract.

1.1.50 REQUEST FOR PROPOSAL. The term "Request for Proposal" or "RFP" herein, means the request for proposal issued by the District for the Project and includes all documents, exhibits, attachments, and addenda thereto.

1.1.51 SCHEMATIC DESIGN PHASE. The term "Schematic Design Phase" shall mean the first phase of the Design and Preconstruction Services.

1.1.52 SCOPE OF WORK. The term "Scope of Work" shall mean all the all labor, materials, and services required to be performed or provided by the Design-Build Entity

pursuant to the Contract Documents necessary to design, construct, and complete the Project. The Scope of Work shall include those geotechnical studies that are required for the Project.

1.1.53 SEPARATE CONTRACTOR. The term "Separate Contractor" means a person, or firm, under separate contract with the District performing other work at the Project site which may affect the work performed under the Contract Documents.

1.1.54 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES. See Section 3.14.2, Shop Drawings, Product Data, and Samples, of the General Conditions.

1.1.55 SPECIFICATIONS. The term "Specifications" means that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the work on the Project, and performance of related services.

1.1.56 SUBCONTRACTOR. The term "Subcontractor" means any person or firm that has a contract with the Design-Build Entity or with a Subcontractor of the Design-Build Entity to perform a portion of the work on the Project. Unless otherwise specifically provided, the term Subcontractor includes Subcontractors of all tiers.

1.1.57 SUBSTANTIAL COMPLETION. See Section 9.6, Substantial Completion, of the General Conditions.

1.1.58 SUPERINTENDENT. The term "Superintendent" means the person designated by the Design-Build Entity to represent the Design-Build Entity at the Project site, in accordance with Article 3.

1.1.59 TIER. The term "tier" means the contractual level of a Subcontractor or supplier or consultant with respect to the Design-Build Entity. For example, a first tier Subcontractor is under subcontract with the Design-Build Entity, a second tier Subcontractor is under subcontract with a first tier Subcontractor, and so forth.

1.2 OWNERSHIP AND USE OF CONSTRUCTION DOCUMENTS

1.2.1 The Construction Documents, and all copies thereof, furnished to, or provided by, the Design-Build Entity are the property of the District. The District and the Design-Build Entity explicitly agree that all materials and documents developed in the performance of this Contract are the property of the District. The District shall have unlimited rights, for the benefit of the District, in all drawings, designs, specifications, notes and any other documentation and other work developed in the performance of this Contract for the Project, including the right to re-use details of the Design on any other the District work at no additional cost to the District. The Design-Build Entity agrees to, and hereby does, grant to the District a royalty free license to all such data that the Design-Build Entity may cover by copyright and to all designs as to which the Design-Build Entity may assert any right or establish any claim to under the patent or copyright law. The Design-Build Entity, for a period up to five (5) years from the Date of Completion of the Project, agrees to furnish and to provide access to the originals or copies of all such materials immediately upon the written request of the District. Any use or reuse by District of the Construction Documents on any project other than this Project without employing the services of the Design-Build Entity shall be at District's own risk with respect to third parties. If District use or reuse the Construction Documents on any project other than this Project, they shall remove the Design-Build Entity's architect's seal from the Construction Documents and hold harmless Design-Build Entity and its officers, directors, agents and employees from claims arising out of the negligent use or reuse of the Construction Documents on such other project. Design-Build Entity shall not be responsible

or liable for any revisions to the Construction Documents made by any party other than the Design-Build Entity, a party for which the Design-Build Entity is legally responsible or liable, or anyone approved by the Design-Build Entity.

1.3 INTERPRETATION OF DOCUMENTS AND ORDER OF PRECEDENCE

1.3.1 The intent of the Contract Documents is to include all necessary criteria to establish the scope and quality for completion of the work on the Project by the Design-Build Entity. The Contract Documents are complementary and what is required by one shall be as binding as if required by all. Performance by the Design-Build Entity shall be required to the extent consistent with, and reasonably inferable from, the Contract Documents.

1.3.2 In the case of conflict or inconsistency, the following order of precedence shall apply, in decreasing order of precedence:

1.3.2.1 Change Orders/Modifications

1.3.2.2 Addenda

1.3.2.3 Contract

1.3.2.4 General Conditions

1.3.3 The District and the Design-Build Entity acknowledge that the Contract Documents may differ in some respect(s) from the other documents included in the Design-Build Proposal Package upon which the Design-Build Entity based its response(s) to Request for Proposal. Prior to the commencement of construction on the Project, the parties shall confirm, in writing, the final form of the Contract Documents that are to be utilized.

1.3.4 Organization of the Specifications into various subdivisions and the arrangement of the Drawings shall not control the Design-Build Entity in dividing portions of the work necessary for the Project among Subcontractors or in establishing the extent of work to be performed by any trade.

1.3.5 Unless otherwise stated in the Contract Documents, technical words and abbreviations contained in the Contract Documents are used in accordance with commonly understood design professional and construction industry meanings; non-technical words and abbreviations are used in accordance with their commonly understood meanings.

1.3.6 The Contract Documents may omit modifying words such as “all” and “any,” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement. The use of the word “including,” when following any general statement, shall not be construed to limit such statement to specific items or matters set forth immediately following such word or to similar items or matters, whether or not non limiting language (such as “without limitation,” “but not limited to,” or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement.

1.3.7 Whenever the context so requires, the use of the singular number shall be deemed to include the plural and vice versa. Each gender shall be deemed to include any other gender, and each shall include corporation, partnership, trust, or other legal entity, whenever the context so requires. The captions and headings of the various subdivisions of the Contract

Documents are intended only for reference and convenience and in no way define, limit, or prescribe the scope or intent of the Contract Documents or any subdivision thereof.

1.3.8 Each and every provision of law required by law to be inserted in the Contract Documents shall be deemed to be inserted herein, and the Contract Documents shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon application of either party the Contract shall be amended in writing to make such insertion or correction.

1.3.9 Before commencing any work on the Project, the Design-Build Entity shall check and review the plans and specifications and Contract Documents for such portion for conformance and compliance with all laws, ordinances, codes, rules and regulations of all governmental authorities and public utilities affecting the construction and operation of the Project, including but not limited to fingerprinting of employees, and Division of the State Architect standards, all quasi-governmental and other regulations affecting the construction and operation of the Project, and other special requirements, if any, designated in the Contract. In the event the Design-Build Entity observes any violation of any law, ordinance, code, rule or regulation, or inconsistency with any such restrictions or special requirements of the Contract, the Design-Build Entity shall immediately notify the District's Representative in writing of same and shall cause to be corrected any such violation or inconsistency in the manner provided hereunder. The Design-Build Entity shall be solely liable for any such violation, inconsistency or special requirement, if Design-Build Entity fails to conduct such review or notification to the District.

1.3.10 Before commencing any work on the Project, the Design-Build Entity shall carefully examine all Specifications, Contract, Contract Documents and other information given to the Design-Build Entity as to Project requirements. The Design-Build Entity shall immediately notify the District's Representative of any perceived or alleged error, inconsistency, ambiguity, or lack of detail or explanation in such documents in writing. Neither the Design-Build Entity nor any Subcontractor shall take advantage of any apparent error or omission which may be found in the Specifications, the Contract, Contract Documents or other information given to Design-Build Entity. If the Design-Build Entity or its Subcontractors, material or equipment suppliers, or any of their officers, agents, and employees performs, permits, or causes the performance of any work under the Contract, which it knows or should have known to be in error, inconsistent, or ambiguous, or not sufficiently detailed or explained, the Design-Build Entity shall bear any and all costs arising there from including, without limitation, the cost of correction thereof without increase or adjustment to the Guaranteed Maximum Price or the Guaranteed Completion Date. In no case shall any Subcontractor proceed with work if uncertain without the Design-Build Entity's written direction and/or approval.

ARTICLE 2. DISTRICT

2.1 FEE AND PERMIT REQUIREMENTS

2.1.1 Cost for on-site inspection by a DSA-approved inspector shall be borne by the District. The District will pay for and obtain the following permits and fees:

2.1.1.1 DSA plan check and/or approval fees

2.1.1.2 California Department of Education plan check and/or approval fees

2.1.2 The Design-Build Entity will be furnished, free of charge, six copies of the Contract Documents.

2.2 ACCESS TO PROJECT SITE

2.2.1 The District will provide, as reasonably required by the work on the Project, but in no event later than the date designated in the Notice to Proceed, access to the lands and facilities upon which the Construction Work is to be performed, including such access to other lands and facilities designated in the Contract Documents for use by the Design-Build Entity, subject to the hours of work specified in the RFP and as may be otherwise be specified by the District.

2.2.2 As specified in the RFP, the Design-Build Entity and all of its Tier Subcontractors shall comply with the applicable requirements of California Education Code Section 45125.2 with respect to fingerprinting of employees who may have contact with the District's students. In no event shall any employees of Design-Build Entity and all Tier Subcontractors come into contact with the District's students before complying with the fingerprinting requirements of California Education Code Section 45125.2.

2.3 THE DISTRICT'S RIGHT TO STOP WORK ON THE PROJECT

2.3.1 If the Design-Build Entity fails to correct Defective Work as required by Section 12.2 or fails to perform the Work in accordance with the Contract Documents, the District or the District's Representative may direct the Design-Build Entity to stop work on the Project, or any portion thereof, until the cause for such order has been eliminated by the Design-Build Entity. The Design-Build Entity shall not be entitled to any adjustment of Guaranteed Completion Date or the Guaranteed Maximum Price as a result of any such order. The District and the District's Representative have no duty or responsibility to the Design-Build Entity or any other party to exercise the right to stop work on the Project.

2.4 THE DISTRICT'S RIGHT TO CARRY OUT WORK ON THE PROJECT

2.4.1 If the Design-Build Entity fails to carry out the Scope of Work in accordance with the Contract Documents, fails to provide sufficient labor, materials, equipment, tools, and services, with respect to either the Schematic Design or Construction phases, to maintain the Contract Schedule, or otherwise fails to comply with any material term of the Contract Documents, and fails within five (5) days after receipt of notice from the District to promptly commence and thereafter diligently continue to completion, the correction of such failure, the District may, without prejudice to other remedies the District may have, correct such failure at the Design-Build Entity's expense. In such case, the District will be entitled to deduct from payments then or thereafter due the Design-Build Entity the cost of correcting such failure, including compensation for the additional services and expenses of the District's Representative and the District's consultants made reasonably necessary thereby. If payments then or thereafter due the Design-Build Entity are not sufficient to cover such amounts, the Design-Build Entity shall pay the additional amount to the District.

2.5 THE DISTRICT'S RIGHT TO REPLACE THE DISTRICT'S REPRESENTATIVE

2.5.1 The District may at any time and from time to time, without prior notice to or approval of the Design-Build Entity, replace the District's Representative with a new the District's Representative. Upon receipt of notice from the District informing the Design-Build Entity of such replacement and identifying the new the District's Representative, the Design-Build Entity shall recognize such person or firm as the District's Representative for all purposes under the Contract Documents.

ARTICLE 3. DESIGN-BUILD ENTITY

3.1 DESIGN-BUILD ENTITY RESPONSIBILITY; INDEPENDENT CONTRACTOR

3.1.1 The Design-Build Entity shall be responsible to the District for acts and omissions of the Design-Build Entity's employees, Subcontractors, material and equipment suppliers, and their agents, employees, invitees, and other persons performing portions of work on the Project under direct or indirect contract with the Design-Build Entity or any of its Subcontractors. The District retains the Design-Build Entity on an independent contractor basis. The Design-Build Entity is not an employee, agent or representative of the District. The Design-Build Entity represents that it is fully experienced and properly qualified to perform the class of work provided for in this Contract and that it is properly licensed, equipped, organized, and financed to perform work on the Project. The Design-Build Entity shall maintain complete control over its employees and its subcontractors and shall pay all wages, salaries and other amounts due such personnel in connection with their performance as required by law. The Design-Build Entity shall be responsible for all reports and obligations respecting such personnel, including but not limited to, social security taxes, income tax withholdings, unemployment insurance, and workers' compensation insurance.

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY THE DESIGN-BUILD ENTITY; SINGLE POINT RESPONSIBILITY OF THE DESIGN-BUILD ENTITY

3.2.1 In addition to the examination and reviews performed, and obligations assumed, incident to making the representations set forth in Article 10 of the Contract, the Design-Build Entity shall carefully study and compare each of the Contract Documents provided by the District with the others and with information furnished by the District, and shall promptly report in writing to the District's Representative any errors, inconsistencies, or omissions in the Contract Documents provided by the District or inconsistencies with Applicable Code Requirements observed by the Design-Build Entity. The Design-Build Entity shall be solely responsible for any errors, inconsistencies or omissions in the Contract Documents if the Design-Build Entity fails to perform such review and examination or fails to report such errors, inconsistencies or omissions to the District in writing.

3.2.2 The Design-Build Entity is responsible for the design and construction of the Project and shall use the highest design and engineering standards of care applicable to projects, buildings or work of similar size, complexity, quality and scope in performing work on the Project. The Design-Build Entity shall be solely responsible for any and all design errors including, but without limitation, errors, inconsistencies or omissions in the Construction Documents. The Design-Build Entity shall take field measurements, verify field conditions, and carefully compare with the Contract Documents such field measurements, conditions, and other information known to the Design-Build Entity before commencing work on the Project. Errors, inconsistencies, or omissions discovered at any time shall be promptly reported in writing to the District's Representative.

3.2.3 If the Design-Build Entity performs any design and/or construction activity which it knows, or should know, involves an error, inconsistency, or omission referred to in Subsections 3.2.1 and 3.2.2, without notifying and obtaining the written consent of the District's Representative, the Design-Build Entity shall be responsible for the resultant Losses, including, without limitation, the costs of correcting Defective Work.

3.2.4 The District does not assume any obligation to employ the Design-Build Entity's services or pay the Design-Build Entity royalties of any type as to future programs that may result from work performed under this Contract.

3.2.5 The Design-Build Entity shall be responsible for all plotting, printing, copying and distribution costs of any and all documents required in connection with work on the Project.

3.2.6 The Design-Build Entity agrees that it has single point responsibility for the Design and construction of this Project, and agrees to utilize the highest standard of excellent design, engineering and construction practices. The Design-Build Entity agrees that, in light of the high degree of confidence and trust that the District has reposed in the Design-Build Entity, the Design-Build Entity shall act in the District's best interests at all times throughout the course and performance of this Contract.

3.3 DESIGN, SUPERVISION AND CONSTRUCTION PROCEDURES

3.3.1 The Design-Build Entity shall supervise, coordinate, and direct all work on the Project using the Design-Build Entity's best skill and attention. The Design-Build Entity shall be solely responsible for, and have control over, the entire design effort, construction means, methods, techniques, sequences, procedures, and the coordination of all portions of work on the Project, including, but without limitation, landscape and site work, utilities, and building systems.

3.3.2 The Design-Build Entity shall be responsible to the District for acts and omissions of the Design-Build Entity, its agents, employees, and Subcontractors, and their respective agents and employees.

3.3.3 The Design-Build Entity shall not be relieved of its obligation to perform all work on the Project in accordance with the Contract Documents either by acts or omissions of the District or the District's Representative in the administration of the Contract, or by tests, inspections, or approvals required, or performed, by persons or firms other than the Design-Build Entity.

3.3.4 The Design-Build Entity shall be responsible for inspection of all portions of work on the Project, including those portions already performed under this Contract, to determine that such portions conform to the requirements of the Contract Documents and are ready to receive subsequent work.

3.3.5 The Design-Build Entity shall perform all geotechnical services required for the Scope of Work. In the performance of the geotechnical services required under this Contract, the Design-Build Entity shall utilize appropriately licensed professionals. To facilitate communications and the management of the Design process, the Design-Build Entity shall establish a local office for the Duration of the Design process.

3.3.6 The Design-Build Entity is not required to produce the entire Construction Documents package in the local office; however, the Design-Build Entity shall provide the appropriate management and design staff in the local office to provide the District with the current status of, and the capability to properly update, the Design documents.

3.3.7 The Design-Build Entity is required to deliver to the District, if requested, any and all design materials including, but not limited to, calculations, preliminary drawings, construction drawings, shop drawings, electronic media data, tenant improvement documents,

sketches, illustrations, specifications, descriptions, models, mock ups, and other information developed, prepared, furnished, or delivered in the prosecution of the Design Work.

3.3.8 The Design-Build Entity shall at all times participate in, implement, and comply with the CEQA documentation prepared for the Project and provided to the Design-Build Entity.

3.3.9 The Design-Build Entity is responsible for preparation of the Construction Documents for the entire Project.

3.3.10 The Design-Build Entity is responsible for construction of the entire Project as required by the Contract Documents.

3.3.11 The Design-Build Entity shall at all times maintain good discipline and order among its employees and subcontractors. The Design-Build Entity shall provide competent, fully qualified personnel to perform all work on the Project.

3.4 LABOR AND MATERIALS

3.4.1 Unless otherwise provided in the Contract Documents, the Design-Build Entity shall provide and pay for all professional services, services, labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Scope of Work on the Project, whether temporary or permanent and whether or not incorporated or to be incorporated in work on the Project.

3.5 TAXES

3.5.1 The Design-Build /Entity shall pay all sales, consumer, use, income, payroll and similar taxes for the work or portions thereof provided by the Design-Build Entity.

3.6 PERMITS, FEES, AND NOTICES

3.6.1 Except for the permits and approvals which are the responsibility of the District as set forth in Section 2.2, the Design-Build Entity shall identify, prepare, submit and pay for, on behalf of the District, all applications, permits, approvals, government fees, licenses, and inspections necessary for the proper execution and performance of work on the Project. The Design-Build Entity shall deliver to the District all original licenses, permits, and approvals obtained by the Design-Build Entity in connection with work on the Project prior to the final payment or upon termination of the Contract, whichever is earlier.

3.7 APPLICABLE CODE REQUIREMENTS

3.7.1 The Design-Build Entity shall perform all work on the Project in accordance with the following Applicable Code Requirements and all code requirements listed in the Scope of Work:

3.7.1.1 All laws, statutes, the most recent building codes, ordinances, rules, regulations, and lawful orders of all public authorities having jurisdiction over the District, the Design-Build Entity, any Subcontractor, the Project, the Project site, the work on the Project, or the prosecution of the work on the Project.

3.7.1.2 All requirements of any insurance company issuing insurance required hereunder.

3.7.1.3 Applicable sections in the State of California Labor Code.

3.7.1.4 All Applicable Code Requirements relating to nondiscrimination, payment of prevailing wages, payroll records, apprentices, and work day.

3.7.2 All products and components outlined herein must conform to all applicable codes, standards, and rating methodologies, including but not limited to, the following:

3.7.2.1 UL certification.

3.7.2.2 National Electrical Code - 2008.

3.7.2.3 Wind uplift requirements per the American Society of Civil Engineers Standard for Minimum Design Loads for Buildings and Other Structures (ASCE 7), and must be able to withstand design wind speeds of at least 85 mph (3-second gusts).

3.7.2.4 All outdoor enclosures shall be at minimum rated NEMA 3R.

3.7.2.5 All Occupational Health and Safety Administration (OSHA) directives.

3.7.2.6 All Division of the State Architect requirements.

3.7.2.7 All applicable Building Codes and Fire Codes.

3.7.3 The Design-Build Entity shall comply with and give notices required by all Applicable Code Requirements, including all environmental laws and all notice requirements. The Design-Build Entity shall promptly notify the District's Representative in writing if the Design-Build Entity becomes aware during the performance of work on the Project that the Contract Documents are at variance with Applicable Code Requirements.

3.7.4 If the Design-Build Entity performs work which it knows or should know is contrary to Applicable Code Requirements, without prior notice to the District and the District's Representative, the Design-Build Entity shall be responsible for such work and any resulting damages including, without limitation, the costs of correcting Defective Work.

3.8 SUPERINTENDENT

3.8.1 The Design-Build Entity shall employ a competent Superintendent satisfactory to the District who shall be in attendance at the Project site at all times during the performance of the Construction Work. Superintendent shall represent the Design-Build Entity and communications given to, and received from, Superintendent shall be binding on the Design-Build Entity. Failure to maintain a Superintendent on the Project site at all times work on the Project is in progress shall be considered a material breach of this Contract, entitling the District to terminate the Contract or, alternatively, issue a stop work order until the Superintendent is on the Project site. If; by virtue of issuance of said stop work order, the Design-Build Entity fails to complete the Contract on time, the Design-Build Entity will be assessed Liquidated Damages in accordance with the Contract.

3.8.2 Any changes to the assignment of the Superintendent shall receive prior written approval from the District. The Superintendent may not perform the work of any trade, pick up materials, or perform any work not directly related to the supervision and coordination of the Construction Work at the Project site when work is in progress. In addition, the Design-Build Entity will provide all key personnel identified in the Contract for the time periods stipulated.

3.9 PROJECT STAFFING

3.9.1 The Design-Build Entity and each Subcontractor shall: furnish a competent and adequate staff as necessary for the proper administration, coordination, supervision, and superintendence of its portion of the work on the Project; organize the procurement of all materials and equipment so that the materials and equipment will be available at the time they are needed for the work; and keep an adequate force of skilled and fit workers on the job to complete all work on the Project in accordance with all requirements of the Contract.

3.9.2 The District shall have the right, but not the obligation, to require the removal from the Project of the Design-Build Entity's Representative, or any other superintendent, staff member, agent, or employee of any contractor, Subcontractor, material or equipment supplier, or any other entity working on the Project. Removal may be required for any reason designated by the District, including but not limited to, failure or refusal to perform work on the Project in a manner acceptable to the District, uncooperative or incompetent performance on the Project, threatening the adequate or timely completion of the Project, or threatening the safety of persons or property.

3.10 TOXIC MATERIALS

3.10.1 The Design-Build Entity is responsible for unforeseen site conditions and toxic materials, but only to the extent described in the Contract Documents and/or that could be reasonably inferred by the Design-Build Entity based on its experience and expertise on similar projects in urban areas.

3.11 HAZARDOUS MATERIALS

3.11.1 The Design-Build Entity shall have no responsibility for detection, abatement, remediation, removal or disposal of any Hazardous Material, except Hazardous Materials introduced onto the Project Site by the Design-Build Entity, its employees, subcontractors, agents, or other parties acting on behalf of the Design-Build Entity. In the event that the Design-Build Entity becomes aware of the presence of, or exposure of persons to, any Hazardous Material at the Project Site, the Design-Build Entity shall inform District by notice as soon as practicable. Notwithstanding anything to the contrary herein, the Design-Build Entity shall not be responsible for, and the District shall bear full responsibility and remediation costs relating to any Hazardous Materials uncovered, removed or disturbed by the Design-Build Entity on the Project Site resulting from the Design-Build Entity's performance of the work hereunder, except Hazardous Materials introduced onto the Project Site by the Design-Build Entity, its employees, subcontractors, agents, or other parties acting on behalf of the Design-Build Entity. The District shall not be responsible for, and the Design-Build Entity shall bear full responsibility and remediation costs relating to any Hazardous Materials introduced onto the Project Site by the Design-Build Entity, its employees, subcontractors, agents, or other parties acting on behalf of the Design-Build Entity.

3.11.2 The Design-Build Entity hereby specifically agrees to indemnify, defend and hold the District, its present and future directors, officers, employees, agents, representatives, successors and assigns harmless from and against any and all losses, liabilities, claims, demands, damages, causes of action, fines, penalties, costs and expenses (including, but not limited to, all reasonable consulting, engineering, attorneys' or other professional fees), that they may incur or suffer by reason of: (a) the existence, uncovering or unveiling, or any release by the District or Design-Build Entity of, a Hazardous Material introduced onto the Project Site by the Design-Build Entity, its employees, subcontractors, agents, or other parties acting on behalf of the Design-Build Entity; (b) any enforcement or compliance proceeding commenced by or in the name of any

governmental authority because of the presence on the Project Site of Hazardous Materials introduced onto the Project Site by the Design-Build Entity, its employees, subcontractors, agents, or other parties acting on behalf of the Design-Build Entity; and (c) any action reasonably necessary to abate, remediate or prevent a violation or threatened violation of any Hazardous Material laws by the Design-Build Entity.

3.12 COMPLIANCE WITH STATE STORMWATER PERMIT FOR CONSTRUCTION

3.12.1 The Design-Build Entity shall be required to comply with all conditions of the State Water Resources Control Board National Pollutant Discharge Elimination System General Permit for Waste Discharge Requirements for Discharges of Stormwater Runoff Associated with Construction Activity ("Permit") for all construction activity which results in the disturbance of in excess of one acre of total land area or which is part of a larger common area of development or sale. The Design-Build Entity shall be responsible for filing the Notice of Intent and for obtaining the Permit. The Design-Build Entity shall be solely responsible for preparing and implementing a Stormwater Pollution Prevention Plan ("SWPPP") prior to initiating work on the Project. It shall be the Design-Build Entity's responsibility to evaluate the cost of procuring the Permit and preparing the SWPPP as well as complying with the SWPPP and any necessary revision to the SWPPP to address Stormwater impacts. The Design-Build Entity shall comply with all requirements of the State Water Resources Control Board. The Design-Build Entity shall include all costs of compliance with specified requirements in the Guaranteed Maximum Price.

3.12.2 The Design-Build Entity shall be responsible for procuring, implementing and complying with the provisions of the Permit and the SWPPP, including the standard provisions, monitoring and reporting requirements as required by the Permit. The Design-Build Entity shall provide copies of all reports and monitoring information to the District's Representative.

3.12.3 The Design-Build Entity shall comply with the lawful requirements of any applicable municipality, the County, drainage district, and other local agencies regarding discharges of Stormwater to separate storm drain system or other watercourses under their jurisdiction, including applicable requirements in municipal Stormwater management programs.

3.13 CONSTRUCTION DOCUMENTS

3.13.1 Construction Documents

3.13.1.1 Upon receipt of the Notice to Proceed, the Design-Build Entity shall instruct the Design Professional to commence the design and the preparation of the Construction Documents utilizing the Criteria Documents to assist in scoping the Project, though responsibility for the Construction Documents shall rest solely with the Design-Build Entity. The Construction Documents shall provide information customarily necessary in documents for projects of similar size, complexity, and quality. The Construction Documents shall include all information required by the building trades to complete the construction of the Project, other than such details customarily developed by others during construction. The District's review of the Construction Documents shall be conducted in accordance with the approved Contract Schedule with procedures set forth in Article 3 relating to Schedule. Such review shall not relieve the Design-Build Entity from its responsibilities under the Contract. Such review shall not be deemed an approval or waiver by the District of any deviation from, or of the Design-Build Entity's failure to comply with, any provision or requirement of the Contract Documents, unless such deviation or failure has been identified as such in writing in the Document submitted by the Design-Build Entity and approved by the District.

3.13.1.2 However, it is acknowledged by the parties hereto that inherent in a Design-Build concept, bridging or otherwise, the production and review of Construction Documents may be a continuing process with portions thereof completed at different times. The Design-Build Entity will limit the Construction Document packages submitted to the District for review and approval for construction to five (5), unless approved in writing by the District. Contract Schedule shall indicate the times for the District to review the completion of each such portion of the Construction Documents and a reasonable time for review of same.

3.13.1.3 The Design-Build Entity shall submit completed packages of the Construction Documents for review by the District, the Division of California State Architect ("DSA") and any other regulating agencies, where applicable, to permit sufficient time for their review and approval. Meetings between the Design-Build Entity and the District to review the Construction Document packages shall be scheduled and held so as not to delay work on the Project.

3.13.1.4 In the event that the Construction Documents reduce scope, identify efficiencies or otherwise result in a reduction to overall Project cost, the GMP and/or GCD may be equitably adjusted by the Parties via Change Order.

3.13.2 The Construction Documents for hazardous and/or toxic abatement efforts and demolition activity shall be of sufficient clarity and shall be fully detailed when submitted to the District for review.

3.13.3 Shop Drawings, Product Data, Samples, Materials, and Equipment

3.13.3.1 Shop drawings means drawings, submitted to the Design-Build Entity by subcontractors, manufacturers, supplier or distributors, showing in detail the proposed fabrication and assembly of building elements and the installation (e.g., form, fit, and attachment details) of materials or equipment.

3.13.3.2 The Design-Build Entity shall coordinate all submittals and review them for accuracy, completeness, and compliance with the requirements of the Contract Documents and the Design-Build Entity's Construction Documents and shall indicate its approval thereon as evidence of such coordination and review.

3.13.3.3 Materials and equipment incorporated in the work on the Project shall match the approved samples within tolerances appropriate to the items, and as may be described in the Contract Documents.

3.13.3.4 The Design-Build Entity shall submit shop drawings approved by the Design Professional and samples of submittals that relate to finish materials and products.

3.13.3.5 Wherever the name or brand of manufacturer or an article is listed in the Contract Documents, it is to be used in work on the Project as the standard. Any variation in quality must be approved by the District.

3.13.4 Geotechnical and Survey

3.13.4.1 The Design Work shall be consistent with the findings and recommendations of the geotechnical report, if any, and legal description and project survey. Design-Build Entity assumes the geotechnical reports provided by the District are adequate for review and approval of all car port structures.

3.13.4.2 The Design-Build Entity shall verify the location and depth (elevation) of all existing utilities and services before performing any excavation work.

3.13.4.3 Any additional tests, borings, etc. necessary to support the Construction Documents shall be the responsibility of the Design-Build Entity.

3.14 MONTHLY REPORT

3.14.1 The Design-Build Entity shall prepare and submit to the District, during both the Construction Documents Phase and the Construction Phase, monthly reports on the work accomplished during the prior monthly period. Such reports shall be prepared in a manner and in a format approved by the District. Reports shall be furnished at the time of submission of each monthly application for payment. The monthly report shall also set forth the Design-Build Entity's projected progress for the forthcoming month.

3.15 OTHER REPORTS

3.15.1 The Design-Build Entity will cooperate with the District in preparing, or causing to be prepared, all or part of, periodic project reports required by state or federal agencies.

3.16 GUARANTEE

3.16.1 The Design-Build Entity unconditionally guarantees all work on the Project will be completed in accordance with the requirements of the Contract Documents, and will remain free of defects in workmanship and materials for a period of one (1) year from the date of Final Completion. The Design-Build Entity shall repair or replace any and all work, together with any adjacent work that may have been damaged or displaced, which was not in accordance with the requirements of the Contract Documents, or that may be defective in its workmanship or material within the guarantee period specified in the Contract Documents, without any expense whatsoever to the District; ordinary wear and tear and abuse excepted.

3.16.2 The Design-Build Entity further agrees, within fourteen (14) days, or as such shorter period as may be designated for emergency repairs, after being notified in writing by the District, of any work not in accordance with the requirements of the Contract Documents or any defects in the work on the Project, that the Design-Build Entity shall commence and execute, with due diligence, all work necessary to fulfill the terms of the guarantee. If the District finds that the Design-Build Entity fails to perform any of the work under the guarantee, the District may elect to have the work completed at the Design-Build Entity's expense and the Design-Build Entity will pay costs of the work upon demand. The District will be entitled to all costs, including reasonable attorneys' fees and consultants' expenses necessarily incurred upon the Design-Build Entity's refusal to pay the above costs.

3.16.3 Notwithstanding the foregoing subsection, in the event of an emergency constituting an immediate hazard to health or safety of the District employees, property, or licensees, the District may undertake, at the Design-Build Entity's expense and without prior notice, all work necessary to correct such condition(s) when it is caused by work of the Design-Build Entity not being in accordance with the requirements of the Contract Documents.

3.17 WARRANTY

3.17.1 The Design-Build Entity warrants to the District that all Design Work will be performed in accordance with the highest professional standards and degree of care applicable to those design professionals who specialize in designing and providing services for projects of the

type, scope, quality and complexity of the Project utilizing the Design-Build contracting mode. The Design-Build Entity warrants to the District that all labor, materials, equipment and furnishings used in, or incorporated into, the Construction Work will be of good quality, new (unless otherwise required or permitted by the Contract Documents), and all work will be free of Liens, claims and security interests of third parties; that the work will be of the highest quality and free from defects and that all work will conform with the requirements of the Contract Documents. If required by the District's Representative, the Design-Build Entity shall furnish satisfactory evidence of compliance with this warranty. Further, the type, quality and quantum of such evidence shall be within the sole discretion of the District's Representative.

3.17.1.1 At or prior to Contract execution, the Design-Build Entity shall provide the applicable warranties for all Project equipment to the District for review. Upon completion of the Project, Design-Build Entity shall provide District with all warranty documentation and shall assist the District in completing any warranty or submittal forms which are required in order to effectuate coverage of the warranties required herein and all may otherwise be available to the District.

3.17.1.2 All work performed by Design-Build Entity must not render void, violate, or otherwise jeopardize any preexisting District facility or building warranties.

3.17.2 At or prior to execution of the Contract, the Design-Build Entity shall execute a separate Operations and Maintenance Agreement with District which shall memorialize the terms and conditions under which the Design-Build Entity shall maintain the Project and uphold the production guarantee required by the Request for Proposals issued by the District. At or prior to execution of the Contract, the District may also enter into a separate PeGu Agreement with the Design-Build Entity if the performance guarantee is not included in the O&M Agreement.

3.18 SCHEDULES REQUIRED OF THE DESIGN-BUILD ENTITY

3.18.1 The Design-Build Entity shall plan, develop, supervise, control, and coordinate the performance of the work on the Project so that its progress and the sequence and timing of Work activities achieve completion by the GCD. The Design-Build Entity shall continuously obtain from Subcontractors information and data about the planning for, and progress of, the work on the Project and the delivery of equipment. The Design-Build Entity shall coordinate and integrate such information and data into updated Contract Schedules, and shall monitor the progress of the work on the Project and the delivery of equipment. The Design-Build Entity shall act as the expediter of potential and actual delays, interruptions, hindrances, or disruptions for its own forces and those forces of Subcontractors, regardless of tier. The Design-Build Entity shall cooperate with the District's Representative in the development of all contract schedules and updated contract schedules.

3.18.2 Failure of the District's Representative to discover errors or omissions in schedules that it has reviewed, or to inform the Design-Build Entity that the Design-Build Entity, Subcontractors, or others are behind schedule, or to direct or enforce procedures for complying with the Contract Schedule shall not relieve the Design-Build Entity from its sole responsibility to perform and complete all work on the Project within the Guaranteed Completion Date and shall not be a cause for an adjustment of the Guaranteed Completion Date or the Guaranteed Maximum Price.

3.18.3 The Construction Schedule shall consist of a critical path format. The time-scale shall indicate all required Milestone and Completion Dates for each activity up to and including the date of Substantial Completion. Each work line shall indicate the start and finish dates of each activity, well as the total time period of performance for each activity. All work activities,

including those within a single activity, shall be broken down into distinctly described activities of no greater than two weeks. Within fifteen (15) calendar days after the Notice of Award, the Design-Build Entity shall prepare and submit to District Representative a Project completion schedule showing in detail how the Design-Build Entity plans to prosecute and perform the Work within the GCD (the "Detailed Project Schedule"). The Detailed Project Schedule shall include the work of all trades necessary for construction of the Project, and shall be sufficiently complete and comprehensive to enable progress to be monitored on a day-by-day basis. The information for each activity shall include as a minimum the activity description, duration, start date and completion date. The initial Detailed Project Schedule shall be approved by the District and attached to the Notice to Proceed. The Design-Build Entity shall take care in the preparation of the Detailed Project Schedule to ensure that it represents an accurate and efficient plan for accomplishing the Work. If the Project is more than one week ahead of or behind schedule, the Detailed Project Schedule must be revised showing how the Design-Build Entity plans to complete the work, but in no case shall it show a completion date later than that required by the Contract, unless a time extension has been granted. The current schedule shall be kept posted in the Design-Build Entity's project office on site. The Design-Build Entity shall be responsible for the coordination of all Work necessary and pertaining to the construction whether actually a part of this Contract or attendant thereto. The Design-Build Entity shall notify the District and various utility companies, as far as possible in advance of their required Work, in order that work schedules may be developed for all concerned, which will permit the most effective accomplishment of the Project. The Design-Build Entity shall perform all work on the Project in accordance with the current accepted Contract Schedule.

3.19 AS BUILT DOCUMENTS

3.19.1 The Design-Build Entity shall maintain one (1) set of As-Built drawings and specifications in BIM model format, which shall be kept up to date during the work of the Contract. All changes which are incorporated into the work on the Project which differ from the Documents as drawn and written and approved shall be noted on the BIM model set. Notations shall reflect the actual materials, equipment and installation methods used for the work on the Project and each revision shall be initialed and dated by Superintendent. Prior to filing of the Notice of Completion, each drawing and the specification cover shall be signed by the Design-Build Entity and dated, attesting to the completeness of the information noted therein, As-Builts in BIM model format Documents shall be turned over to the District's Representative and shall become part of the Record Documents as required by the Scope of Work.

3.20 DOCUMENTS AND SAMPLES AT PROJECT SITE

3.20.1 The Design-Build Entity shall maintain the following at the Project site:

3.20.1.1 One current copy of the Contract Documents (including Construction Documents), in good order and marked to record current changes and selections made during construction.

3.20.1.2 One copy of the prevailing wage rates applicable to the Project.

3.20.1.3 The current accepted Contract Schedule.

3.20.1.4 Shop Drawings, Product Data, and Samples.

3.20.1.5 One current copy of all documents required by 3.24.1 (As built documents.)

3.20.1.6 All other required submittals.

3.20.2 These shall be available to the District's Representative and shall be delivered to the District's Representative for submittal to the District upon the earlier of Final Completion or termination of the Contract.

3.21 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

3.21.1 Definitions:

3.21.1.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Project by the Design-Build Entity or a Subcontractor to illustrate some portion of the work on the Project.

3.21.1.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Design-Build Entity to illustrate or describe materials or equipment for some portion of work on the Project.

3.21.1.3 Samples are physical examples that illustrate materials, equipment, or workmanship and establish standards by which the work on the Project will be judged.

3.21.2 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate, for those portions of work on the Project for which submittals are required, how the Design-Build Entity proposes to conform to the information given and the Design concept expressed in the Contract Documents.

3.21.3 The Design-Build Entity shall review, approve, and submit to the District's Representative Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the work on the Project or in the activities of the District or of Separate Contractors. Submittals made by the Design-Build Entity that are not required by the Contract Documents may be returned without action by the District's Representative.

3.21.4 The Design-Build Entity shall perform no portion of the work requiring submittal and review of Shop Drawings, Product Data, Samples, or similar submittals until the respective submittal has been reviewed by the District's Representative and no exceptions have been taken by the District's Representative. Such work shall be in accordance with approved submittals and the Contract Documents. The District shall provide review and response to all such submittals within ten (10) working days.

3.21.5 By approving and submitting Shop Drawings, Product Data, Samples, and similar submittals, the Design-Build Entity represents that it has determined or verified materials and field measurements and conditions related thereto, and that it has checked and coordinated the information contained within such submittals with the requirements of the Contract Documents and Shop Drawings for related work.

3.21.6 If the Design-Build Entity discovers any conflicts, omissions, or errors in Shop Drawings or other submittals, the Design-Build Entity shall notify the District's Representative and receive instruction before proceeding with the affected work. The Design-Build Entity shall be responsible to correct to the satisfaction of the District, any conflicts, omissions, or errors in Shop Drawings or other submittals.

3.21.7 The Design-Build Entity shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the District's Representative's review of Shop Drawings, Product Data, Samples, or similar submittals, unless the Design-Build Entity has specifically informed the District's Representative in writing of such deviation at the time of submittal and the District's Representative has given written approval of the specific deviation. The Design-Build Entity shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals by the District's Representative's review, acceptance, comment, or approval thereof.

3.21.8 The Design-Build. Entity shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the District's Representative on previous submittals.

3.21.9 The District will review first resubmittal of Shop Drawing at its cost. The District reserves the right to reduce the Guaranteed Maximum Price by Change Order for its cost for any subsequent reviews of Shop Drawing resubmittals.

3.22 USE OF SITE AND CLEAN UP

3.22.1 The Design-Build Entity shall confine operations at the Project site to areas permitted by law, ordinances, permits, and the Contract Documents. The Design-Build Entity shall not unreasonably encumber the Project site with materials or equipment.

3.22.2 The Design-Build Entity shall, during performance of work on the Project, keep the Project site and surrounding area free from the accumulation of excess dirt, waste materials, and rubbish caused by the Design-Build Entity. The Design-Build Entity shall remove all excess dirt, waste material, and rubbish caused by the Design-Build Entity; tools; equipment; machinery; and surplus materials from the Project site and surrounding area at the completion of the Project.

3.22.3 Personnel of the Design-Build Entity and Subcontractors shall not occupy, live upon, or otherwise make use of the Project site during any time that work is not being performed at the Project site, except as otherwise provided in the Contract Documents.

3.23 CUTTING, FITTING, AND PATCHING

3.23.1 The Design-Build Entity shall do all cutting, fitting, or patching work required to make all parts of the Project come together properly and to allow the Project to receive or be received by the work of Separate Contractors shown upon, or reasonably implied by, the Contract Documents.

3.23.2 The Design-Build Entity shall not endanger the Project, or adjacent property by cutting, digging, or otherwise. The Design-Build Entity shall not cut or alter the work of any Separate Contractor without the prior consent of the District's Representative.

3.24 ACCESS TO WORK

3.24.1 The District, the District's Representative, their consultants, and other persons authorized by the District will at all times have access to the work on the Project wherever it is in preparation or progress. The Design-Build Entity shall provide safe and proper facilities for such access and for inspection.

3.25 ROYALTIES AND PATENTS

3.25.1 The Design-Build Entity shall pay all royalties and license fees required for the performance of work on the Project. The Design-Build Entity shall defend suits or claims resulting from the Design-Build Entity's or any Subcontractor's infringement of patent rights and shall Indemnify the District and the District's Representative from Losses on account thereof.

3.26 CONCEALED OR UNKNOWN CONDITIONS

3.26.1 Except and only to the extent provided otherwise in Article 7 and 8 of the General Conditions, by signing the Contract, the Design-Build Entity agrees:

3.26.2 To bear the risk of concealed or unknown conditions, if any, which may be encountered in performing the Contract, as described in these Contract Documents, and/or can reasonably be inferred by the Design-Build Entity based on its experience and expertise; and

3.26.3 That the Design-Build Entity's Guaranteed Maximum Price for the Contract was made with full knowledge of this risk.

3.26.4 In agreeing to bear the risk of concealed or unknown conditions, The Design-Build Entity understands that, except and only to the extent provided otherwise in Articles 7 and 8, concealed and/or unknown conditions shall not excuse The Design-Build Entity from its obligation to achieve full completion of the Project within the Guaranteed Completion Date, and shall not entitle the Design-Build Entity to an adjustment of the Guaranteed Maximum Price.

3.26.5 If concealed or unknown conditions are encountered which require, in the opinion of the District's Representative, design details which differ from those details shown in the Criteria Documents and the District's Representative finds that such revised design details will cause an increase or decrease in the cost of, or the time required for performance of the Contract, and if the District agrees with the District's Representative's determinations, the District may terminate this Contract without any liability to the Design-Build Entity, except for work completed at the time of termination or issue a Change Order modifying the Contract Terms to provide for the change in design details and to provide for an adjustment in the Guaranteed Maximum Price and/or Guaranteed Completion Date pursuant to Articles 7 and 8.

3.26.6 If the Design-Build Entity encounters concealed or unknown conditions that differ materially from those anticipated or expected, the Design-Build Entity shall notify the District's Representative within 24 hours in writing of such conditions so that the District's Representative can determine if such conditions require design details which differ from those design details shown in the Criteria Documents. The Design-Build Entity shall be liable to the District for any extra costs incurred as the result of the Design-Build Entity's failure to give such notice.

3.27 LIABILITY FOR AND REPAIR OF DAMAGED WORK

3.27.1 Except as otherwise provided in the Contract Documents, the Design-Build Entity shall be liable for any and all damages and losses to the Project (whether by fire, theft, vandalism, earthquake, flood or otherwise) prior to the District's acceptance of the Project as fully completed.

ARTICLE 4. ADMINISTRATION OF THE CONTRACT

4.1 ADMINISTRATION OF THE CONTRACT BY THE DISTRICT'S REPRESENTATIVE

4.1.1 The District's Representative will have authority to act on behalf of the District only to the extent provided in the Contract Documents.

4.1.2 The District shall designate in the Contract one or more representatives authorized to act on the District's behalf with respect to the Project, together with the scope of his/her respective authority. If the District's Representative(s) changes, the District shall notify the Design-Build Entity in writing as provided in the Contract. Functions for which this Contract Documents provide will be performed by the District may be delegated by the District only by written notice to the Design-Build Entity from the District. The Design-Build Entity shall not be entitled to rely on directions (nor shall it be required to follow the Directions) from anyone outside the scope of that person's authority as set forth in written authorization pursuant to this Design-Build Contract. Directions and decisions made by the District Representatives of the District shall be binding on the District.

4.1.3 During the term of this Design-Build Contract, the District's Representative shall have the right to review the Design Professionals' work at such intervals as deemed appropriate by the District's Representative. However, no actions taken during such review or site visit by the District's Representative, shall relieve the Design-Build Entity of any of its obligations of single point responsibility for the Design and construction of this Project, nor form the basis for a Claim, if such actions extend beyond the Guaranteed Completion Date. District representative shall be included in coordination and progress meetings with the Design-Build Entity.

4.1.4 The District's Representative will not have control over, will not be in charge of, and will not be responsible for design or construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the work on the Project, since these are solely the Design-Build Entity's responsibility.

4.1.5 Except as otherwise provided in the Contract Documents or when direct communications have been specifically authorized, the District and the Design-Build Entity shall communicate through the District's Representative. Communications by the Design-Build Entity with the District's consultants and the District's Representative's consultants shall be through the District's Representative. Communications by the District and the District's Representative with Subcontractors will be through the Design-Build Entity. Communications by the Design-Build Entity and Subcontractors with Separate Contractors shall be through the District's Representative. The Design-Build Entity shall not rely on oral or other non-written communications.

4.1.6 Based on the District's Representative's Project site visits, review of Design Work, and evaluations of the Design-Build Entity's Applications For Payment, the District's Representative will recommend amounts, if any, due the Design-Build Entity and will issue Certificates For Payment in such amounts.

4.1.7 The District's Representative will have the authority to reject work on the Project, or any portion thereof, which does not conform to the Contract Documents. The District's Representative will have the authority to stop work on the Project, or any portion thereof. Whenever the District's Representative considers it necessary, or advisable, for implementation of the intent of the Contract Documents, the District's Representative will have the authority to require additional inspection or testing of the work on the Project in accordance with the Contract

Documents, whether or not such work is fabricated, installed, or completed. However, no authority of the District's Representative conferred by the Contract Documents nor any decision made in good faith either to exercise, or to not exercise such authority, will give rise to a duty or responsibility of the District or the District's Representative to the Design-Build Entity, or any person or entity claiming under, or through, the Design-Build Entity.

4.1.8 The District's Representative will have the authority to conduct inspections and to determine the Dates of Substantial Completion and Final Completion; will receive for review and approval any records, written warranties, and related documents required by the Contract Documents and assembled by the Design-Build Entity; and will issue a final Certificate For Payment upon the Design-Build Entity's compliance with the requirements of the Contract Documents.

4.1.9 The District's Representative will be, in the first instance, the interpreter of the requirements of the Contract Documents and the judge of performance thereunder by the Design-Build Entity. Should the Design-Build Entity discover any conflicts, omissions, or errors in the Construction Documents or the Contract Documents; have any questions about the interpretation or clarification of the Contract Documents; question whether work is within the scope of the Contract Documents; then, before proceeding with the work affected, the Design-Build Entity shall notify the District's Representative in writing and request interpretation, or clarification. The District's Representative's response to questions and requests for interpretations, clarifications, instructions, or decisions will be made with reasonable promptness. Should the Design-Build Entity proceed with the work affected before receipt of a response from the District's Representative, any portion of the work on the Project which is not done in accordance with the District's Representative's interpretations, clarifications, instructions, or decisions shall be removed or replaced and the Design-Build Entity shall be responsible for all resultant losses.

4.2 THE DESIGN-BUILD ENTITY CHANGE ORDER REQUESTS

4.2.1 The Design-Build Entity may request changes to the Guaranteed Maximum Price and/or Guaranteed Completion Date for Extra Work or Excusable Delays to completion of the Project caused by the acts, errors, or omissions of the District, the District's Representative, their agents or employees, or caused by unforeseen conditions if, and only if, the Design-Build Entity follows the procedures specified in this Section. As used in this Section, such acts, errors, or omissions shall include, but not be limited to, the provision of instructions, or interpretations that involve an increase or decrease in Project Scope, Extra Work or delay completion of the Project.

4.2.2 If the Design-Build Entity asserts that the Design-Build Entity is entitled to an adjustment of the Guaranteed Maximum Price and/or Guaranteed Completion Date as the result of an act, error, or omission of the District, the District's Representative, their agents or employees, or as the result of unforeseen conditions, then the Design-Build Entity may submit a Change Order Request in a form acceptable to the District, to the District's Representative.

4.2.3 A Change Order Request must state that it is a Change Order Request, state and justify the reason for the request, and specify the amount of any requested adjustment to the Guaranteed Maximum Price and/or Guaranteed Completion Date. Upon request of the District's Representative, the Design-Build Entity shall submit such additional information as may be requested by the District's Representative for the purpose of evaluating the Change Order Request. Such additional information may include a Cost Proposal meeting the requirements of Article 7 and written documentation demonstrating the Design-Build Entity's entitlement to a time extension under Section 8.4. If the Change Order Request seeks an adjustment of the Guaranteed Maximum Price for an Excusable delay, upon request of the District's Representative, the Design-

Build Entity shall submit written documentation demonstrating the Design-Build Entity's entitlement to such an adjustment under Subsection 7.3.9.

4.2.4 A condition precedent to obtaining an adjustment of the Guaranteed Maximum Price and/or Guaranteed Completion Date as the result of an act, error, or omission of the District, the District's Representative, their agents or employees, or as the result of an unforeseen condition, is timely submission of a Change Order Request that meets the requirements set forth in Subsections 4.2.2 and 4.2.3. A Change Order Request based upon such acts, errors or omissions will be deemed timely submitted if, and only if, it is submitted within ten (10) days of the date the Design-Build Entity discovers, or reasonably should discover, that an act, error, or omission of the District, the District's Representative, their agents or employees, has occurred that may entitle the Design-Build Entity to an adjustment of the Guaranteed Maximum Price and/or Guaranteed Completion Date (even if the Design-Build Entity has not been damaged, delayed, or incurred extra cost when the Design-Build Entity discovers, or reasonably should discover, the act, error or omission giving rise to the Change Order Request). A Change Order Request based upon an unforeseen condition will be deemed timely submitted if, and only if, it is submitted within ten (10) days of the Date the Design-Build Entity discovers, or reasonably should discover, the existence of an unforeseen condition that may entitle the Design-Build Entity to an adjustment of the Guaranteed Maximum Price and/or Guaranteed Completion Date (even if the Design-Build Entity has not been damaged, delayed, or incurred extra cost when the Design-Build Entity discovers, or reasonably should discover, the unforeseen condition giving rise to the Change Order Request).

4.2.5 If the District's Representative issues a final decision on all or part of a Change Order Request, the Design-Build Entity may contest the decision by filing a timely Claim under the procedures specified in Section 4.3. A final decision is any decision on a Change Order Request which states that it is final.

4.3 CLAIMS

4.3.1 The term "Claim" means a written demand or assertion by the Design-Build Entity seeking an adjustment or interpretation of the terms of the Contract Documents, payment of money, extension of time, or other relief with respect to the Contract Documents, including a determination of disputes or matters in question between the District and the Design-Build Entity arising out of or related to the Contract Documents or the performance of work on the Project, and claims alleging an unforeseen condition or an act, error or omission by the District, the District's Representative, their agents or employees. However, the term "Claim" shall not include, and the Claims procedures provided under this Article 4 shall not apply to the following:

4.3.1.1 Claims respecting penalties for forfeitures prescribed by statute or regulation that a government agency is specifically authorized to administer, settle, or determine.

4.3.1.2 Claims respecting personal injury, death, reimbursement, or other compensation arising out of or resulting from liability for personal injury or death.

4.3.1.3 Claims respecting a latent defect, breach of warranty, or guarantee to repair.

4.3.1.4 Claims respecting Stop Payment Notices.

4.3.2 If a Claim is subject to the procedures specified in Section 4.2, the Claim arises upon the issuance of a written final decision denying in whole or in part the Design-Build Entity's Change Order Request. If a Claim is not subject to the procedures specified in Section 4.2,

the Claim arises when the Design-Build Entity discovers, or reasonably should discover, the condition or event giving rise to the Claim (even if the Design-Build Entity has not been damaged, delayed, or incurred extra cost when the Design-Build Entity discovers, or reasonably should discover, the condition or event giving rise to the Claim).

4.3.3 4.3.3 A Claim not subject to the procedures specified in Section 4.2 may be asserted if, and only if, the Design-Build Entity gives a valid written notice of intent to file the Claim within ten (10) calendar days of the Date the Claim arises under Subsection 4.3.2. A written notice of intent to file a claim will be deemed valid, if and only, if it identifies the event or condition giving rise to the Claim and states its probable effect, if any, with respect to the Design-Build Entity's entitlement to an adjustment of the Guaranteed Maximum Price and/or the Guaranteed Completion Date.

4.3.4 A Claim must include the following:

4.3.4.1 A statement that it is a Claim and a request for a decision pursuant to Section 4.5.

4.3.4.2 A detailed description of the act, error, omission, unforeseen condition, event or other condition giving rise to the Claim.

4.3.4.3 If the Claim is subject to the procedures specified in Section 4.2, a statement demonstrating that a Change Order Request was timely submitted as required by Subsection 4.2.4. If the Claim is not subject to the procedures specified in Section 4.2, a statement demonstrating that a valid notice of intent to file the Claim was timely submitted as required by Subsection 4.3.3.

4.3.4.4 A detailed justification for any remedy or relief sought by the Claim, including to the extent applicable, the following:

4.3.4.4.1 If the Claim involves Extra Work, a detailed cost breakdown of the amounts claimed, including the items specified in Subsection 7.3.2. The breakdown must be provided even if the costs claimed have not been incurred when the Claim is submitted. To the extent costs have been incurred when the Claim is submitted, the Claim must include actual cost records (including without limitation, payroll records, material and rental invoices and the like) demonstrating that costs claimed have actually been incurred. To the extent costs have not yet been incurred at the time the Claim is submitted, actual cost records must be submitted on a current basis not less than once a week during any periods costs are incurred. A cost record will be considered current if submitted within 7 days of the Date the cost reflected in the record is incurred. At the request of the District's Representative, claimed extra costs may be subject to further verification procedures (such as having an inspector verify the performance of alleged extra work on a daily basis).

4.3.4.4.2 If the Claim involves an extension of the Guaranteed Completion Date, written documentation demonstrating the Design-Build Entity's entitlement to a time extension under Section 8.4.

4.3.4.4.3 If the Claim involves an adjustment of the Guaranteed Maximum Price for an Excusable delay, written documentation demonstrating the Design-Build Entity's entitlement to such an adjustment under Subsection 7.3.9.

4.4 ASSERTION OF CLAIMS

4.4.1 Claims by the Design-Build Entity shall be first submitted to the District's Representative for decision.

4.4.2 Notwithstanding the making of any Claim or the existence of any dispute regarding any Claim, unless otherwise directed by the District's Representative, the Design-Build Entity shall not cause any delay, cessation, or termination in or of the Design-Build Entity's performance of work on the Project, but shall diligently proceed with performance of the work in accordance with the Contract Documents. The District will continue to make payments in accordance with the Contract Documents.

4.4.3 The Design-Build Entity shall submit a Claim in writing, together with the supporting data specified in Subsection 4.3.4, to the District's Representative as soon as possible but not later than thirty (30) days after the Date the claim arises under Subsection 4.3.2.

4.4.4 The Design-Build Entity agrees that strict compliance with the requirements of Subsections 4.2.4, 4.3.3, and 4.4.3 is an express condition precedent to the Design-Build Entity's right to arbitrate or litigate a Claim. The Design-Build Entity specifically agrees to assert no Claims in arbitration or litigation unless there has been strict compliance with Subsections 4.2.4, 4.3.3, and 4.4.3.

4.5 DECISION OF THE DISTRICT'S REPRESENTATIVE ON CLAIMS

4.5.1 The District's Representative will timely review Claims submitted by the Design-Build Entity. If the District's Representative determines that additional supporting data are necessary to fully evaluate a Claim, the District's Representative will request such additional supporting data in writing.

4.6 ALTERNATE DISPUTE RESOLUTION OF CLAIMS

4.6.1 In accordance with Public Contract Code Sections 20104 *et seq*. and other applicable law, public works claims of $375,000 or less which arise between the Design-Build Entity and the District shall be resolved under the following the statutory procedure unless the District has elected to resolve the dispute pursuant to Public Contract Code Section 10240 *et seq*.

4.6.2 All Claims: All claims shall be submitted in writing and accompanied by substantiating documentation. Claims must be filed on or before the date of final payment unless other notice requirements are provided in the contract. "Claim" means a separate demand by the claimant for (1) a time extension, (2) payment of money or damages arising from work done by or on behalf of the claimant and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled, or (3) an amount the payment of which is disputed by the District.

4.6.3 Claims Under $50,000: The District shall respond in writing to the claim within forty-five (45) days of receipt of the claim, or, the District may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the District may have. If additional information is needed thereafter, it shall be provided upon mutual agreement of the District and the claimant. The District's written response shall be submitted fifteen (15) days after receiving the additional documentation, or within the same period of time taken by the claimant to produce the additional information, whichever is greater.

4.6.4 Claims over $50,000 but less than or equal to $375,000: The District shall respond in writing within sixty (60) days of receipt, or, may request in writing within thirty (30) days of receipt of the claim, any additional documents supporting the claim or relating to defenses or claims the District may have against the claimant. If additional information is needed thereafter, it shall be provided pursuant to mutual agreement between the District and the claimant. The District's response shall be submitted within thirty (30) days after receipt of the further documents, or within the same period of time taken by the claimant to produce the additional information or documents, whichever is greater. The Design-Build Entity shall make these records and documents available at all reasonable times, without any direct charge.

4.6.5 The Design-Build Entity will submit the claim justification in the following format:

4.6.5.1 Summary of claim merit and price, and Contract clause pursuant to which the claim is made.

4.6.5.2 List of documents relating to claim including, but not limited to:

4.6.5.3 Specifications

4.6.5.4 Drawings

4.6.5.5 Clarifications (Requests for Information)

4.6.5.6 Schedules

4.6.5.7 Chronology of events and correspondence

4.6.5.8 Analysis of claim merit

4.6.5.9 Analysis of claim cost

4.6.5.10 Analysis of time impact analysis in CPM format

4.6.5.11 Cover letter and certification of validity of the claim

4.6.6 If the claimant disputes the District's response, or if the District fails to respond within the statutory time period(s), the claimant may so notify the District within fifteen (15) days of the receipt of the response or the failure to respond, and demand an informal conference to meet and confer for settlement. Upon such demand, the District shall schedule a meet and confer conference within thirty (30) Days.

4.6.7 If following the meet and confer conference, the claim or any portion thereof remains in dispute, the claimant shall file a claim pursuant to Government Code 900 *et seq*. and Government Code 910 *et seq*. For purposes of those provisions, the time within which a claim must be filed shall be tolled from the time the claimant submits the written claim until the time the claim is denied, including any time utilized for the meet and confer conference.

4.6.8 Submission of a claim, properly certified, with all required supporting documentation, and written rejection or denial of all or part of the claim by District, is an express condition precedent to any action, proceeding, litigation, suit, general conditions claim, or demand for arbitration by Design-Build Entity.

4.7 WAIVER

4.7.1 A waiver of, or failure by, the District or the District's Representative to enforce any requirement in this Article 4, including, without limitation, the requirements in Subsections 4.2.4, 4.3.3, 4.4.3, 4.4.4 and 4.5.4 in connection with any Claim shall not constitute a waiver of, and shall not preclude the District or the District's Representative from enforcing such requirements in connection with any other Claims.

4.7.2 The Design-Build Entity agrees and understands that no oral approval, either express or implied, of any Claim shall be binding upon the District unless and until such approval is ratified by execution of a written Change Order.

ARTICLE 5. SUBCONTRACTORS

5.1 SUBCONTRACTUAL RELATIONS

5.1.1 Any part of the work on the Project performed for the Design-Build Entity by a first tier Subcontractor shall be pursuant to a written subcontract. Each such subcontract shall require the Subcontractor, to the extent of the work to be performed by the Subcontractor, to be bound to the Design-Build Entity by the terms of the Contract Documents, to assume toward the Design-Build Entity all the obligations and responsibilities which the Design-Build Entity assumes towards the District by the Contract Documents, and to perform such portion of the work on the Project in accordance with the Contract Documents. Each such subcontract shall preserve and protect the rights of the District under the Contract Documents, with respect to the work to be performed by Subcontractor, so that subcontracting thereof will not prejudice such rights.

ARTICLE 6. CONSTRUCTION BY THE DISTRICT OR BY SEPARATE CONTRACTORS

6.1 THE DISTRICT'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS

6.1.1 The District reserve the right to award separate contracts for, or to perform with its own forces, construction or operations related to the work or other construction or operations at or affecting the Project site, including portions of work on the Project which have been deleted by Change Order. The Design-Build Entity shall cooperate with the District's forces and Separate Contractors.

6.1.2 The District will provide coordination of the activities of the District's forces and of each Separate Contractor with the work of the Design-Build Entity. The Design-Build Entity shall participate with the District and Separate Contractors in joint review of construction schedules and Project requirements when directed to do so. The Design-Build Entity shall make necessary revisions to the Contract Schedule after such joint review.

6.2 MUTUAL RESPONSIBILITY

6.2.1 The Design-Build Entity shall afford the District and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities. The Design-Build Entity shall connect, schedule, and coordinate its construction and operations with the construction and operations of the District and Separate Contractors as required by the Contract Documents.

6.2.2 If a portion of the work on the Project is dependent upon the proper execution or results of other construction or operations by the District or Separate Contractors, the Design-Build Entity shall inspect such other design or construction or operations before proceeding with that portion of the work on the Project. The Design-Build Entity shall promptly report to the District's Representative apparent discrepancies or defects which render the other design, construction or operations unsuitable to receive the work on the Project. Unless otherwise directed by the District's Representative, the Design-Build Entity shall not proceed with the portion of the work on the Project affected until apparent discrepancies or defects have been corrected. Failure of the Design-Build Entity to so report within a reasonable time after discovering such discrepancies or defects shall constitute an acknowledgment that the other construction or operations by the District or Separate Contractors is suitable to receive the work on the Project, except as to defects not then reasonably discoverable.

6.3 THE DISTRICT'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises between the Design-Build Entity and Separate Contractors as to the responsibility under their respective contracts for maintaining the Project site and surrounding areas free from waste materials and rubbish, the District may clean up and allocate the cost between those firms the District deem to be responsible.

ARTICLE 7. CHANGES IN THE SCOPE OF WORK

7.1 CHANGES

7.1.1 The District may, from time to time, order or authorize additions, deletions, and other changes in the Scope of Work by Change Order or Field Order without invalidating the Contract and without notice to sureties. Absence of such notice shall not relieve such sureties of any of their obligations to the District.

7.1.2 The Design-Build Entity may request a Change Order under the procedures specified in Section 4.2.

7.1.3 A Field Order, as defined below, may be issued by the District; and shall be valid with or without the signature of the Design-Build Entity.

7.1.4 The Design-Build Entity shall proceed promptly with any changes in the Scope of Work, unless otherwise provided in the relevant Change Order, District Directed Change Order or Field Order.

7.2 DEFINITIONS

7.2.1 A Change Order becomes a Contract Document when, (i) it is an District Directed Change Order as described in Section 7.2.2; or (ii) after it has been signed by both the District and the Design-Build Entity, and states their agreement upon all of the following:

7.2.1.1 A change in the Scope of Work, if any.

7.2.1.2 The amount of an adjustment of the Guaranteed Maximum Price, billed as Extra Work pursuant to Attachment 2 to the Contract, if any.

7.2.1.3 The amount of an adjustment of the Guaranteed Completion Date, if any.

7.2.2 An District Directed Change Order is a type of Change Order which may be issued by the District and incorporated into the Contract Documents without the Design-Build Entity's signature, where the District determine that it is in the District's best interest to adjust the Guaranteed Maximum Price and/or Guaranteed Completion Date as the District believe necessary, even though no agreement has been reached between the District and the Design-Build Entity.

7.2.3 A Field Order is a preliminary to a Change Order that describes a change in the Scope of the Work, the estimated adjustments of the Guaranteed Maximum Price and/or the Guaranteed Completion Date, if any, and orders a change in the Scope of Work before all of the terms of the change are fully agreed upon by the District and the Design-Build Entity. A Field Order must eventually be memorialized as a Change Order or an District Directed Change Order and incorporated into the Contract Documents.

7.3 CHANGE ORDER PROCEDURES

7.3.1 When requested by the District's Representative, the Design-Build Entity shall provide promptly, but in no event longer than seven (7) days from the date of the request, a Cost Proposal setting forth the Design-Build Entity's proposed adjustments of the Guaranteed Maximum Price and/or the Guaranteed Completion Date, if any, for performing the proposed change in the Scope of Work. Adjustments of the Guaranteed Maximum Price resulting from Extra Work and/or deductive work shall be determined using one of the methods described in Article 7. Adjustments of the Guaranteed Completion Date shall be subject to the provisions in Article 8.

7.3.2 The term "Cost of Extra Work" as used in this Article shall mean actual costs incurred by the Design-Build Entity and each Subcontractor regardless of tier involved, and shall be limited to the following (to the extent the Design-Build Entity demonstrates that they were actually incurred):

7.3.2.1 Overhead and Profit not to exceed 15% of the Cost of the Extra Work (not more than 10% Overhead and 5% Profit) and straight time wages or salaries for employees employed at the Project site, or at fabrication sites off the Project site, in the direct performance of the Extra Work.

7.3.2.2 Fringe Benefits and Payroll Taxes for employees employed at the Project site, or at fabrication sites off the Project site, in the direct performance of the Extra Work.

7.3.2.3 Overtime wages or salaries, specifically authorized in writing by the District's Representative, for employees employed at the Project site, or at fabrication sites off the Project site, in the direct performance of the Extra Work.

7.3.2.4 Fringe Benefits and Payroll Taxes for overtime Work specifically authorized in writing by the District's Representative, for employees employed at the Project site, or at fabrication sites off the Project site, in the direct performance of the Extra Work.

7.3.2.5 Costs of materials and consumable items which are furnished and incorporated into the Extra Work, as approved by the District's Representative. Such costs shall be charged at the lowest price available to the Design-Build Entity but in no event shall such costs exceed competitive costs obtainable from other subcontractors, suppliers, manufacturers, and distributors in the area of the Project site. All discounts, rebates, and refunds and all returns from sale of surplus materials and consumable items shall accrue to the District and the Design-Build Entity shall make provisions so that they may be obtained.

7.3.2.6 Sales taxes on the costs of materials and consumable items which are incorporated into and used in the performance of the Extra Work pursuant to Subsection 7.3.2.5 above.

7.3.2.7 Rental charges for necessary machinery and equipment, whether owned or hired, as authorized in writing by the District's Representative, exclusive of hand tools, used directly in the performance of the Extra Work. Such rental charges shall not exceed the current U.S. Army Corp. of Engineers scheduled charges for the area in which the work is performed. The Design-Build Entity shall attach a copy of said schedule to the Cost Proposal. The charges for any machinery and equipment shall cease when the use thereof is no longer necessary for the Extra Work.

7.3.2.8 Additional costs of royalties and permits due to the performance of the Extra Work.

7.3.2.9 Cost for revisions in the Schematic Design Documents or Construction Documents, when such revisions are inconsistent with approvals or instructions previously given by the District. Revisions made necessary by adjustments in the District's program or project budget such costs to be computed as set forth herein.

7.3.2.10 The cost for Insurance and Bonds shall not exceed 1% of items 1. through 9. above.

7.3.3 Cost of Extra Work shall not include any of the following:

7.3.3.1 Superintendent(s).

7.3.3.2 Assistant Superintendent(s).

7.3.3.3 Project Engineer(s).

7.3.3.4 Project Manager(s).

7.3.3.5 Scheduler(s).

7.3.3.6 Estimator(s).

7.3.3.7 Incidental Drafting or Detailing.

7.3.3.8 Small tools (Replacement value does not exceed $300).

7.3.3.9 Office expenses including staff, materials and supplies.

7.3.3.10 On site or off site trailer and storage rental and expenses.

7.3.3.11 Site fencing.

7.3.3.12 Utilities including gas, electric, sewer, water, telephone, facsimile, copier equipment.

7.3.3.13 Data processing personnel and equipment.

7.3.3.14 Federal, state, or local business income and franchise taxes.

7.3.3.15 Overhead and Profit in excess 15% of the Cost of the Extra Work, of the 15% not more than ___% shall consist of Overhead and 5% of Profit.

7.3.3.16 Costs and expenses of any kind or item not specifically and expressly included in Article 7.3.2.

7.3.4 Compensation for Extra Work as an adjustment to the Guaranteed Maximum Price, authorized by Change Order shall be computed as specified herein.

7.3.5 As a condition to the Design-Build Entity's right to an adjustment of the Guaranteed Maximum Price, pursuant to Subsection 7.3.4, the Design-Build Entity must keep daily detailed and accurate records itemizing each element of cost and shall provide substantiating records and documentation, including time cards and invoices. Such records and documentation shall be submitted to and approved by the District's Representative on a daily basis.

7.3.6 For work to be deleted by Change Order, the reduction of the Guaranteed Maximum Price shall be computed on the basis of one or more of the following:

7.3.6.1 Unit prices stated in the Contract or an Attachment thereto.

7.3.6.2 Unit prices agreed upon by the District and the Design-Build Entity.

7.3.6.3 A lump sum agreed upon by the District and the Design-Build Entity, based upon the actual costs which would have been incurred in performing the Deleted portions of the work on the Project as calculated in accordance with Subsections 7.3.2 and 7.3.3.

7.3.7 If any one Change Order involves both Extra Work and deleted work in the same portion of the work on the Project, the Guaranteed Maximum Price shall not be increased if the deductive cost exceeds the additive cost. If the additive cost exceeds the deductive cost, an increase in the Guaranteed Maximum Price will be allowed only on the difference between the two amounts.

7.3.8 The Guaranteed Maximum Price will be adjusted for a delay if, and only if, the Design-Build Entity demonstrates that all of the following four conditions are met:

7.3.8.1 Condition Number One: The delay results in an extension of the Guaranteed Completion Date pursuant to Subsection 8.4.1.

7.3.8.2 Condition Number Two: The delay is caused solely by one, or more of the following:

7.3.8.2.1 An error or omission in the Contract Documents caused by the District and not as a result of the Design-Build Entity's failure to conform to criteria documents, performance standards, Construction Documents, or Contract Documents; or

7.3.8.2.2 The District's decision to change the Scope of the Work, where such decision is not the result of any default or misconduct of the Design-Build Entity; or

7.3.8.2.3 The District's decision to suspend work on the Project, where such decision is not the result of any default or misconduct of the Design-Build Entity; or

7.3.8.2.4 The failure of the District or the District's Representative to timely perform any contract obligation where the failure to so perform is not the result of any default or misconduct of the Design-Build Entity.

7.3.8.3 Condition Number Three: The delay is not concurrent with a delay that is:

7.3.8.3.1 Critical under Subsection 8.4.1.2; and

7.3.8.3.2 Caused by an event not listed in Subsection 7.3.8.2.

7.3.8.4 Condition Number Four: The delay is not caused, in whole or in part, by an event not listed in Subsection 7.3.8.2 above.

7.3.9 For each day of delay that meets all four conditions prescribed in Subsection 7.3.8 the Guaranteed Maximum Price will be adjusted as set forth herein.

7.3.10 Except as provided in Articles 7 and 8, the Design-Build Entity shall have no claim for damage or compensation for any delay, interruption, hindrance, or disruption.

7.3.11 If for any reason one or more of the conditions prescribed in Subsection 7.3.4 is held legally unenforceable, the remaining conditions must be met as a condition to obtaining an adjustment of the Guaranteed Completion Date under Subsection 7.3.8.

7.4 FIELD ORDERS

7.4.1 A Field Order as described in Subsection 7.2.3 above, may be issued by the District. If requested in writing, the Design-Build Entity shall promptly provide the District's Representative with a Cost Proposal, setting forth the proposed adjustments of the Guaranteed Maximum Price and/or the Guaranteed Completion Date, if any, for performing the change in the Scope of Work. The Field Order will be superseded by a Change Order which shall include the actual adjustments, if any, of the Guaranteed Maximum Price and the Guaranteed Completion Date, as well as the change in the Scope of Work.

7.4.2 A Field Order signed by the Design-Build Entity indicates the agreement of the Design-Build Entity therewith, including the Design-Build Entity's agreement to the proposed adjustments to the Guaranteed Maximum Price and/or the Guaranteed Completion Date stated therein. Such agreement shall be effective immediately and will be incorporated into a Change Order.

7.4.3 Upon receipt of a Field Order, the Design-Build Entity shall promptly proceed with the change in the Scope of Work.

7.4.4 If the Design-Build Entity does not agree to the adjustment of the Guaranteed Maximum Price set forth in a Field Order, the amount shall he determined in accordance with the provisions of Subsection 7.3.4 above; and the Design-Build Entity shall comply with the provisions of Subsection 7.3.6 regarding records and documentation of actual costs.

7.5 VARIATION IN QUANTITY OF UNIT PRICE WORK

7.5.1 The District shall have the right to increase or decrease the quantity of any Unit price item for which an estimated quantity is stated in the Contract Documents.

7.6 WAIVER

7.6.1 A waiver of, or failure by, the District or the District's Representative to enforce any requirement in this Article 7, including, without limitation, the requirements in Subsections 7.3.6, 7.3.8, 7.3.9, 7.3.10, or 7.3.11 in connection with any adjustment of the Guaranteed Maximum Price, will not constitute a waiver of; and will not preclude the District, or the District's Representative, from enforcing, such requirements in connection with any other adjustments of the Guaranteed Maximum Price.

7.6.2 The Design-Build Entity agrees and understands that no oral approval, either express or implied, of any adjustment of the Guaranteed Maximum Price by the District or its agents shall be binding upon the District unless and until such approval is ratified by execution of a written change order.

ARTICLE 8. GUARANTEED COMPLETION DATE

8.1 COMMENCEMENT OF WORK ON THE PROJECT

8.1.1 The date of commencement of the Scope of Work shall be set forth in the Notice To Proceed. The date of commencement for the Scope of Work shall not be postponed by the failure of the Design-Build Entity, Subcontractors, or of persons or firms for whom the Design-Build Entity is responsible, to act.

8.2 PROGRESS AND COMPLETION

8.2.1 By signing the Contract:

8.2.1.1 The Design-Build Entity represents to the District that the Guaranteed Completion Date is reasonable for performing the Scope of Work and that the Design-Build Entity is able to perform and complete the Scope Work within the Guaranteed Completion Date.

8.2.1.2 The Design-Build Entity agrees that the District is purchasing the right to have the Design-Build Entity present on the Project for the full duration of the time period necessary to complete the Scope of Work described in the RFP.

8.2.2 The Design-Build Entity shall not, except by agreement or instruction of the District in writing, commence operations on the Project site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Design-Build Entity. The date of commencement and the Guaranteed Completion Date shall not be changed by the effective date of such insurance.

8.2.3 The Design-Build Entity shall proceed expeditiously with adequate forces and shall achieve full completion of the work by the Guaranteed Completion Date. If the District's Representative determines and notifies the Design-Build Entity that the Design-Build Entity's progress is such that the Design-Build Entity will not achieve full completion of the work by the Guaranteed Completion Date, the Design-Build Entity shall immediately and at no additional cost to the District, take all measures necessary, including working such overtime, additional shifts, Sundays, or holidays as may be required to ensure that the entire Project is completed within the Guaranteed Completion Date. Upon receipt of such notice from the District's representative, the Design-Build Entity shall immediately notify the District's Representative of all measures to be taken to ensure full completion of the work within the Guaranteed Completion Date. The Design-Build Entity shall reimburse the District for any extra costs or expenses (including the reasonable

value of any services provided by the District's employees) incurred by the District as the result of such measures.

8.3 DELAY

8.3.1 There are only two kinds of delay, Excusable Delay and Inexcusable Delay. Only Excusable Delay, that meets the requirements specified herein may result in the adjustment of the Guaranteed Completion Date, and/or the Guaranteed Maximum Price and may be compensated as Extra Work as described below. All other delay(s) are Inexcusable, and except and only to the extent provided otherwise in Articles 7 and 8, by signing the Contract, the Design-Build Entity agrees:

8.3.1.1 To bear the risk of Inexcusable Delays to completion of the work on the Project; and

8.3.1.2 That the Contract was made with full knowledge of this risk.

8.3.2 In agreeing to bear the risk of Inexcusable Delays to completion of the work on the Project, the Design-Build Entity understands that, except and only to the extent provided otherwise in Articles 7 and 8, the occurrence of events that result in any delay in completion of the work on the Project shall not excuse the Design-Build Entity from its obligation to achieve full completion of the work on the Project within the Guaranteed Completion Date, and shall not entitle the Design-Build Entity to an adjustment of the Guaranteed Maximum Price.

8.4 ADJUSTMENT OF THE GUARANTEED COMPLETION DATE FOR EXCUSABLE DELAY

8.4.1 The Guaranteed Completion Date will be extended for an Excusable Delay, if and only if, the Design-Build Entity demonstrates that all of the following six conditions are met:

8.4.1.1 Condition Number One: When the event causing the delay commences, the Design-Build Entity has complied with all Contract requirements for maintaining, submitting, and updating Contract Schedules.

8.4.1.2 Condition Number Two: The delay is critical. A delay is critical if and only to the extent it delays a work activity that cannot be delayed without delaying completion of the entire Project beyond the contractually specified date for full completion of the work on the Project as stated in the Notice to Proceed, or as amended by Change Order. Under this Subsection 8.4.1.2;

8.4.1.2.1 If the Contract Schedule shows completion of the entire Project before the contractually specified date for full completion of the work on the Project, a delay is critical if and only to the extent the delay pushes completion of the entire project to a date that is beyond the contractually specified date for full completion of the Project.

8.4.1.2.2 When two or more delays occur concurrently, and each such concurrent delay by itself without consideration of the other delays would be critical, then all such concurrent delays shall be considered critical. For the purpose of determining whether and to what extent the Guaranteed Completion Date should be adjusted pursuant to Subsection 8.4.2, such concurrent critical delays shall be treated as a single delay which commences at the start of the delay that begins first and terminates at the cessation of the delay that ends last.

8.4.1.3 Condition Number Three: The delay is supported by the Contract Schedule (or, if appropriate, the Preliminary Schedule), current at the commencement of the event giving rise to the delay. A delay is supported only to the extent the Contract Schedule (or, if appropriate, the Preliminary Schedule) corroborates that it causes a delay to completion of the entire Project beyond the contractually specified date for full completion because of its effect on the operation referred to in Subsection 8.4.1.2. The requirement that a delay be supported will be excused if the event causing the delay commences before approval of the Contract Schedule, provided that the absence of an approved Contract Schedule is not due to the Design-Build Entity's failure to timely submit an acceptable Proposed Contract Schedule.

8.4.1.4 Condition Number Four: Within five (5) days of the date the Design-Build Entity discovers or reasonably should discover an act, error, omission or unforeseen condition causing the delay, (even if the Design-Build Entity has not been delayed when the Design-Build Entity discovers or reasonably should discover the act, error, omission or unforeseen condition giving rise to the delay) the Design-Build Entity submits a timely Change Order Request that meets the requirements of Section 4.2.

8.4.1.5 Condition Number Five: The delay is not caused by:

8.4.1.5.1 A naturally occurring unforeseen site condition not anticipated in the Contract Documents (e.g., unanticipated naturally occurring rock or sand); or

8.4.1.5.2 The financial inability, misconduct or default of the Design-Build Entity, a Subcontractor or supplier; or

8.4.1.5.3 The unavailability of materials or parts, as long as such materials or parts were timely ordered by Design-Build Entity within thirty (30) days of the issuance of the Notice to Proceed; or

8.4.1.5.4 An error or omission in the Contract Documents caused by the Design-Build Entity or the Design-Build Entity's Design Consultants.

8.4.1.6 Condition Number Six: The delay is caused by:

8.4.1.6.1 Fire; or

8.4.1.6.2 Strikes, boycotts, or like obstructive actions by employees or labor organizations; or

8.4.1.6.3 Acts of God, including earthquakes in excess of a magnitude of 3.5 on the Richter Scale, tidal waves, floods, unusually severe weather, epidemic, or other severe natural disaster; or

8.4.1.6.4 A man made (not naturally occurring) unforeseen site condition such as buried utility lines, pipes, and the like; or

8.4.1.6.5 An error or omission in the Contract Documents caused by the District; or

8.4.1.6.6 The District's decision to change the Scope of Work, where such decision is not the result of any default or misconduct of the Design-Build Entity; or

8.4.1.6.7 The District's decision to suspend the work on the Project, where such decision is not the result of any default or misconduct of the Design-Build Entity; or

8.4.1.6.8 The failure of the District or the District's representative to timely perform any Contract obligation unless such failure is due to the Design-Build Entity's default or misconduct.

8.4.2 If and only if a delay meets all six conditions prescribed in Subsection 8.4.1, then the Guaranteed Completion Date will be extended by the number of days completion of the entire Project is delayed beyond the Guaranteed Completion Date for full completion of the work on the Project.

8.4.3 If for any reason one or more of the six conditions prescribed in Subsection 8.4.1 is held legally unenforceable, then all remaining conditions must be met as a condition to obtaining an extension of the Guaranteed Completion Date under Subsection 8.4.2.

8.5 COMPENSATION FOR EXTRA WORK DUE TO EXCUSABLE DELAY

8.5.1 To the maximum extent allowed by law, any adjustment of the Guaranteed Maximum Price as the result of Excusable Delays shall be limited to the amounts specified in Article 7.

8.5.2 By signing the Contract, the parties agree that the District has the right to do any or all of the following, which are reasonable and within the contemplation of the parties:

8.5.2.1 To order changes in the Scope of Work, regardless of the extent and number of changes, including without limitation:

8.5.2.1.1 Changes to correct errors or omissions caused by the District, if any, in the Contract Documents.

8.5.2.1.2 Changes resulting from the District's decision to change the Scope of the Work subsequent to execution of the Contract.

8.5.2.1.3 Changes due to unforeseen conditions.

8.5.2.2 To suspend work on the Project or any part thereof.

8.5.2.3 To delay work on the Project, including without limitation, delays resulting from the failure of the District or the District's Representative to timely perform any Contract obligation and delays for the District's convenience.

8.6 WAIVER

8.6.1 A waiver of or failure by, the District or the District's Representative to enforce any requirement in this Article 8, including without limitation the requirements in Section 8.4, in connection with any or all past delays shall not constitute a waiver of, and shall not preclude the District or the District's Representative from enforcing, such requirements in connection with any present or future delays.

8.6.2 The Design-Build Entity agrees and understands that no oral approval, either express or implied, of any time extension by the District or its agents shall be binding upon the District unless and until such approval is ratified by execution of a written Change Order.

ARTICLE 9. PAYMENTS AND COMPLETION

9.1 COST BREAKDOWN/SCHEDULE OF VALUES

9.1.1 Within ten (10) days after DSA plan approval, the Design-Build Entity shall submit to the District's Representative a detailed Cost Breakdown/Schedule of Values ("Cost Breakdown") of the portion of the Guaranteed Maximum Price applicable to that phase of the work in a form reasonably approvable to the District. The Cost Breakdown shall include all Allowances. Each such Cost Breakdown shall itemize as separate line items the cost of each work activity for the applicable phase and all associated costs, including but not limited to warranties, as built documents, overhead expenses, and the total allowance for profit. Insurance and bonds shall each be listed as separate line items. The total of all line items shall at all times be consistent with the Guaranteed Maximum Price. The Cost Breakdown, when approved by the District's Representative, shall become part of the Contract Documents and shall be the basis for determining the cost of the work performed for the Design-Build Entity's Applications for Payment.

9.2 PROGRESS PAYMENT

9.2.1 The District agrees to pay monthly to the Design-Build Entity, subject to Subsection 9.4.2, an amount equal to 95% of the sum of the following:

9.2.1.1 Cost of the Construction Work in permanent place as of the end of the preceding month.

9.2.1.2 Cost of materials not yet incorporated in the Construction Work, subject to Subsection 9.3.5.

9.2.1.3 Less amounts previously paid.

9.2.1.4 During the Design Work, the District shall pay the Design-Build Entity monthly a uniform amount prorated, based on the Guaranteed Completion Date and Guaranteed Maximum Price associated with either Schematic Design or Construction Documents Phase.

9.3 APPLICATION FOR PAYMENT

9.3.1 On or before the 10th day of the month or such other date as is established by the Contract Documents, the Design-Build Entity shall submit to the District's Representative an itemized Application For Payment, for the cost of the work in permanent place, as approved by the District's Representative, which has been completed in accordance with the Contract Documents as of the last day of the preceding month, less amounts previously paid. The Application For Payment shall be prepared as follows:

9.3.1.1 In a form approved by the District.

9.3.1.2 Itemized in accordance with the Cost Breakdown, including Allowances, as applicable.

9.3.1.3 Include such data substantiating the Design-Build Entity's right to payment as the District's Representative may reasonably require, such as invoices, certified payrolls, daily time and material records, and, if securities are deposited in lieu of retention pursuant to Section 9.5, a certification of the market value of all such securities as of a date not earlier than 5 days prior to the date of the Application For Payment as applicable.

9.3.1.4 Itemized retention.

9.3.2 Applications For Payment shall not include requests for payment on account of (1) changes which have not been authorized by Change Orders or (2) amounts the Design-Build Entity does not intend to pay a Subcontractor because of a dispute or other reason.

9.3.3 If required by the District, an Application For Payment shall be accompanied by (1) a summary showing payments that will be made to Subcontractors covered by such application and (2) unconditional waivers and releases of claims and Stop Payment Notices, in the form contained in the Exhibits, from each Subcontractor listed in the preceding Application For Payment covering sums disbursed pursuant to that preceding Application For Payment.

9.3.4 The Design-Build Entity warrants that, upon submittal of an Application For Payment, all work on the Project, for which Certificates For Payment have been previously issued and payment has been received from the District, shall be free and clear of all claims, Stop Payment Notices, security interests, and encumbrances in favor of the Design-Build Entity, Subcontractors, or other persons or firms entitled to make claims by reason of having provided labor, materials, or equipment relating to work on the Project.

9.3.5 At the sole discretion of the District, the District's Representative may approve for inclusion in the Application For Payment the cost of materials not yet incorporated in the Construction Work but already delivered and suitably stored either at the Project site or at some other appropriate location acceptable to the District's Representative. In such case, the Design-Build Entity shall furnish evidence satisfactory to the District's Representative (1) of the cost of such materials and (2) that such materials are under the exclusive control of the Design-Build Entity. Only materials to be incorporated in the work on the Project will be considered for payment. Any payment shall not be construed as acceptance of such materials nor relieve the Design-Build Entity from sole responsibility for the care and protection of such materials; nor relieve the Design-Build Entity from risk of loss to such materials from any cause whatsoever; nor relieve the Design-Build Entity from its obligation to complete the work on the Project in accordance with the Contract; nor act as a waiver of the right of the District to require fulfillment of all terms of the Contract.

9.4 APPROVAL OF APPLICATION FOR PAYMENT BY DISTRICT

9.4.1 [RESERVED]

9.4.2 The District may decide to withhold payment in whole, or in part, to the extent reasonably necessary to protect the District if, in the District's opinion, the representations to the District required of the Design-Build Entity pursuant to the Contract Documents cannot be made. Failure by the District to deduct any sums from a progress payment shall not constitute a waiver of the District's right to such sums. The District may keep any moneys which would otherwise be payable at any time hereunder and apply the same, or so much as may be necessary therefore, to the payment of any expenses, losses, or damages as determined by the District, incurred by the District for which the Design-Build Entity is liable under the contract. For instance, the District may withhold payment, in whole or in part, to such extent as may be necessary to protect the District from loss because of:

9.4.2.1 Failure to provide requested supporting documents, including those noted in Section;

9.4.2.2 Defective work not timely remedied;

9.4.2.3 Stop Payment Notices. If any Stop Payment Notice or other lien is filed on the Project for labor, materials, supplies, equipment or any other thing of value claimed to have been furnished to or incorporated into the work on the Project, or for other alleged contribution thereto, the District shall retain from payments otherwise due the Design-Build Entity, in addition to other amounts properly withheld under this Section or under other provisions of the Contract, an amount equal to 125 percent (125%) of the amount claimed under such Stop Payment Notice; provided, however, that the District may release such funds upon receipt of evidence satisfactory to the District to the effect that the Design-Build Entity has resolved such claim, by settlement, Stop Payment Notice Bond or otherwise. All other provisions of state law with respect to Stop Payment Notices shall also apply;

9.4.2.4 Liquidated damages assessed against the Design-Build Entity;

9.4.2.5 Reasonable doubt that the work on the Project can be completed for the unpaid balance of any Guaranteed Maximum Price or within the Guaranteed Completion Date;

9.4.2.6 Damage to the District, another the Design-Build Entity, or subcontractor, including any sums expended by or on behalf of the District in performing any of the Design-Build Entity's obligations under the Contract which the Design-Build Entity has failed to perform or has performed inadequately;

9.4.2.7 Unsatisfactory prosecution of the work by the Design-Build Entity;

9.4.2.8 Failure to store and properly secure materials;

9.4.2.9 Failure of the Design-Build Entity to submit on a timely basis, proper and sufficient documentation required by the Contract, including, without limitation, monthly progress schedules, shop drawings, submittal schedules, schedule of values, product data and samples, proposed product lists, executed change orders, and verified reports;

9.4.2.10 Failure of the Design-Build Entity to maintain record drawings;

9.4.2.11 Erroneous estimates by the Design-Build Entity of the value of the work on the Project performed, or other false statements in an Application for Payment;

9.4.2.12 Unauthorized deviations from the Contract Documents;

9.4.2.13 Failure of the Design-Build Entity to prosecute the work on the Project in a timely manner in compliance with established progress schedules and completion dates; or

9.4.2.14 Forfeiture of funds pursuant to California Labor Code Section 1727. The District shall retain and transfer those funds pursuant to California Labor Code Section 1730.

9.4.3 Subject to the withholding provisions of Subsection 9.4.2, the District will pay the Design-Build Entity the amount set forth in the Certificate For Payment no later than 15 days after the issuance of the Certificate For Payment.

9.4.4 Neither the District nor the District's Representative will have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

9.4.5 Neither a Certificate For Payment nor a progress payment made by the District will constitute acceptance of Defective Work.

9.5 DEPOSIT OF SECURITIES IN LIEU OF RETENTION AND DEPOSIT OF RETENTION INTO ESCROW

9.5.1 At the request and expense of the Design-Build Entity, a substitution of securities may be made for any monies retained by the District under Section 9.2 to ensure performance under the Contract Documents. Securities equivalent in value to the retention amount required by the Contract Documents for each Certificate For Payment shall be deposited by the Design-Build Entity with a state or federally chartered bank in the State of California ("Escrow Agent'), which shall hold such securities pursuant to the escrow Contract referred to in Subsection 9.5.3 until final payment is due in accordance with Section 9.8. Securities shall be valued as often as conditions of the securities market warrant, but in no case less than once per month. The Design-Build Entity shall deposit additional securities so that the current market value of the total of all deposited securities shall be at least equal to the total required amount of retention.

9.5.2 Alternatively to Subsection 9.5.1, and at the request and expense of the Design-Build Entity, the District will deposit retention directly with Escrow Agent. The Design-Build Entity may direct the investment of such deposited retention into interest bearing accounts or securities, and such deposits or securities shall be held by Escrow Agent upon the same terms provided for securities deposited by the Design-Build Entity.

9.5.3 A prerequisite to the substitution of securities in lieu of retention or the Deposit of retention into escrow shall be the execution by the Design-Build Entity, the District, and Escrow Agent of an Escrow Contract for Deposit of Securities in Lieu of Retention and Deposit of Retention in the form set forth in the Public Contract Code. The terms of such escrow Contract are incorporated into the requirements of this Section 9.5.

9.6 SUBSTANTIAL COMPLETION

9.6.1 When the Design-Build Entity gives notice to the District's Representative that the Construction Work is substantially complete, unless the District's Representative determines that the Construction Work is not sufficiently complete to warrant an inspection to determine Substantial Completion, the District's Representative will inspect the Construction Work, and prepare and give to the Design-Build Entity a comprehensive list of items to be completed or corrected before establishing Substantial Completion. The Design-Build Entity shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the Design-Build Entity to complete all Construction Work in accordance with the Contract Documents. The District's Representative will make an inspection to determine whether the Construction Work is substantially complete. If the District's Representative's inspection discloses any item, whether or not included on the list, which must be completed or corrected before Substantial Completion, the Design-Build Entity shall, before issuance of the Certificate of Substantial Completion, complete or correct such item. The Design-Build Entity shall then submit a request for another inspection by the District's Representative to determine Substantial Completion. Costs for additional inspection by the District's Representative shall be deducted from any monies due and payable to the Design-Build Entity.

9.6.2 When the District's Representative determines that the Construction Work is substantially complete, the Design-Build Entity will prepare and submit a Certificate of Substantial Completion to the District, which, when signed by the District, shall establish the Date of Substantial Completion and the responsibilities of the District and the Design-Build Entity for security, maintenance, utilities, insurance, and damage to the Construction Work. Unless otherwise provided in the Certificate of Substantial Completion, the Guarantee To Repair Period for the work on the Project covered by the Certificate of Substantial Completion, shall commence on the Date of Substantial Completion of the Construction Work except that Substantial Completion shall not commence the Guarantee to Repair Period for any equipment or systems that:

9.6.2.1 Are not fully operational (equipment or systems shall not be considered fully operational if they are intended to provide service to any portion of the building which the District has neither Beneficially Occupied nor accepted as Substantially Complete); or

9.6.2.2 Are not accepted by the District.

9.6.3 The Guarantee To Repair Period for systems which become fully operational and accepted subsequent to Substantial Completion will begin on the Date of their acceptance by the District. The Certificate of Substantial Completion shall be submitted to the District and the Design-Build Entity for their written acceptance.

9.7 FINAL COMPLETION AND FINAL PAYMENT

9.7.1 Upon receipt of notice from the Design-Build Entity that the work on the Project is ready for final inspection, the District's Representative will make such inspection. Final Completion shall be when the District's Representative determines that the work on the Project is fully completed and in accordance with the Contract Documents. The District will file a Notice of Completion within 10 days after Final Completion. After receipt of the final Application For Payment, if the District's Representative determines that Final Completion has occurred, the District's Representative will issue the final Certificate For Payment.

9.7.2 Neither final payment nor any retention shall become due until the Design-Build Entity submits the following items to the District's Representative:

9.7.2.1 The final Application For Payment and all submittals required in accordance with Section 9.3.

9.7.2.2 All guarantees and warranties procured by the Design-Build Entity from Subcontractors, all operating manuals for equipment installed in the Project, As built documents, and all other submittals required by the Contract Documents.

9.7.2.3 The final payment shall be made, subject to the satisfaction of all other legal conditions to final payment, 35 days after the filing of the Notice of Completion.

9.7.3 Acceptance of final payment by the Design-Build Entity shall constitute a waiver of all claims, except those previously made in writing and identified by the Design-Build Entity as unsettled at the time of the final Application For Payment, and Design-Build Entity shall submit a waiver of all such claims (except those previously made in writing and identified by the Design-Build Entity as unsettled at the time of the final Application For Payment), in a form reasonably acceptable to the District, at the time of final payment.

ARTICLE 10. PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 The Design-Build Entity shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Design-Build Entity shall take adequate precautions for safety of and shall provide adequate protection to prevent damage, injury, or loss to the following:

10.2.1.1 Employees involved in the Construction Work and other persons who may be affected thereby.

10.2.1.2 The Construction Work in place and materials and equipment to be incorporated therein, whether in storage on or off the Project site, under care, custody, or control of the Design-Build Entity or Subcontractors.

10.2.1.3 Other property at the Project site and adjoining property.

10.2.2 The Design-Build Entity shall erect and maintain, as required by existing conditions and performance of the work on the Project, adequate safeguards for safety and protection, including providing adequate lighting and ventilation, posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying District and users of adjacent sites and utilities.

10.2.3 When use or storage of explosives, other hazardous materials, equipment, or unusual methods are necessary for execution of the Construction Work, the Design-Build Entity shall exercise the utmost care and carry on such activities only under the supervision of properly qualified personnel.

10.2.4 The Design-Build Entity shall designate a responsible member of the Design-Build Entity's organization at the Project site whose duty shall be the prevention of accidents. That person shall be the Superintendent, unless otherwise designated by the Design-Build Entity in writing to the District and the District's Representative.

10.2.5 The Design-Build Entity shall not load or permit any part of the Construction Work or the Project site to be loaded so as to endanger the safety of persons or property.

10.3 EMERGENCIES

10.3.1 In an emergency affecting the safety of persons or property, the Design-Build Entity shall act to prevent or minimize damage, injury, or loss. The Design-Build Entity shall promptly notify the District's Representative, which notice may be oral followed by written confirmation, of the occurrence of such an emergency and the Design-Build Entity's action.

ARTICLE 11. INSURANCE AND BONDS

11.1 THE DESIGN-BUILD ENTITY'S INSURANCE

11.1.1 Minimum Scope of Insurance.

11.1.1.1 *General Liability*: Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001).

11.1.1.2 *Automobile Liability*: Insurance Services Office Business Auto Coverage form number CA 0001, code 1 (any auto).

11.1.1.3 *Workers' Compensation and Employers' Liability*: Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

11.1.1.4 *Professional Liability*: Professional Liability Insurance insuring the Design-Build Entity, its officers, directors, stockholders, employees, agents, or partner, and all other persons for whose acts the Design-Build Entity may be liable, against any and all liabilities arising out of or in connection with the negligent acts, errors or omissions of any of the foregoing in connection with the carrying out of their professional responsibilities described in this Contract. Professional Liability Insurance shall remain in full force and effect, and shall be so certified to the District by the insurer, for a period of three (3) years after the termination of this Contract and the completion of all of the Design-Build Entity's services hereunder.

11.1.2 Minimum Limits of Insurance.

11.1.2.1 *General Liability*: General Liability will be provided in the following $5,000,000 per occurrence for bodily injury, personal injury and property damage, as well as an excess Umbrella Liability policy in the amount of $5,000,000 covering the above named perils. In either case, if Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this Project or the general aggregate limit shall be twice the required occurrence limit.

11.1.2.2 *Automobile Liability*: $2,000,000 per accident for bodily injury and property damage.

11.1.2.3 *Workers' Compensation and Employers' Liability*: Workers' compensation limits as required by the Labor Code of the State of California. Employers Liability limits of $1,000,000 per accident for bodily injury or disease.

11.1.2.4 *Professional Liability Insurance*: $2,000,000 per claim.

11.1.2.5 *All Coverages*: Each insurance policy required by this RFP shall be endorsed to state that coverage shall not be canceled except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the District.

11.1.3 Verification of Coverage. The Design-Build Entity shall provide to District certificates of insurance and endorsements effecting coverage required by this Contract. All insurance is to be placed with insurers with a current A.M. Best's rating no less than A-:VIII, licensed to do business in California, and satisfactory to the District. All insurance required by this Section shall also contain standard separation of insureds provisions and shall not contain any special limitations on the scope of protection afforded to the District, its directors, officials, officers, employees, agents and volunteers. All policies shall contain a provision stating that such policies are primary insurance and that the insurance of District or any named insured shall not be called upon to contribute to any loss. The certificates and endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf, and shall be on industry standard forms (such as an ISO CG 2010 (or insurer's equivalent) signed by the insurer's representative, and a certificate of insurance (Acord form 25-S or equivalent) with additional insured endorsements attached) , and acceptable to the District. All certificates and endorsements

must be received and approved by the District within five (5) calendar days of the date of the Letter of Award. The District reserves the right to require complete, certified copies of all required insurance policies, at any time.

11.1.4 Duration of Coverage. Unless otherwise stated herein, insurance required under this Article shall be maintained in effect, unless otherwise provided in the contract documents, until the earliest of the following dates:

The date on which all persons and organizations who are insureds under the policy agree that it shall be terminated;

The date on which final payment for the Project has been made;

The date on which the insurable interests in the property of all insureds other than District have ceased.

11.1.5 Waiver of Subrogation. Design-Build Entity shall waive all rights against District and any of its assignees, agents and, each of the other, for damages caused by fire or other perils to the extent covered (i.e., insurance proceeds are actually received) by insurance obtained pursuant to this Article 11 or other insurance applicable to the Project. Design-Build Entity shall require of any assignees, Subcontractors, sub-Subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a Person or entity even though that Person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the Person or entity had an insurable interest in the property damaged. If the insurance policies purchased hereunder do not allow the insured to waive rights of recovery against others prior to loss, Design-Build Entity shall cause them to be endorsed with a waiver of subrogation as required above. The waiver of subrogation provided herein shall be effective as against all corporations or entities provided insurance coverage to or for the Project of any person or entity performing work on the Project, and this waiver includes but is not limited to, insurance coverage provided by private sector insurers and self-insured contractors or corporations.

11.1.6 Other Insurance. The Design-Build Entity shall provide all other insurance required to be maintained under applicable laws, ordinances, rules, and regulations.

11.2 PERFORMANCE AND PAYMENT BOND

11.2.1 The Design-Build Entity shall furnish bonds covering the faithful performance of the Contract (Performance Bond) and payment of obligations arising thereunder (Payment Bond) on the forms contained in the exhibits to the Contract.

11.2.2 The Payment Bond and Performance Bond shall each be in the amount of the Guaranteed Maximum Price.

11.2.3 The Payment Bond and Performance Bond shall be in effect on the Date the Contract is signed by the District.

11.2.4 [*RESERVED*]

11.2.5 Surety companies used by the Design-Build Entity shall be, on the Date the Contract is signed by the District, listed in the latest published State of California, Department of Insurance list of "Insurers Admitted to Transact Surety Insurance in this State."

11.2.6 The premiums for the Payment Bond and Performance Bond shall be paid by the Design Build Entity.

11.2.7 The Design-Build Entity maintains and agrees that it has executed Payment and Performance Bonds in the amounts and manner required by the Bid Documents.

11.2.8 No payment will be made to the Design-Build Entity until the Design-Build Entity's Payment Bond and Performance Bond have been approved by the District.

11.2.9 Should, in the District's sole opinion, any bond become insufficient or Surety found to be unsatisfactory, the Design-Build Entity shall renew or replace the effected bond within 10 days of receiving notice from the District. "Unsatisfactory" for purposes of this Section 11.2.9 shall be the bonding company's rating fail to maintain the District's minimum of "A-;VIII" rating as required by Section 10.1.3.

11.2.10 In the event the Surety or the Design-Build Entity intends to reduce or cancel any required bonds, at least thirty (30) days prior written notice shall be given to the District, and the Design-Build Entity shall post acceptable replacement bonds at least ten (10) days prior to expiration of the original bonds. No further payments shall be deemed due or will be made under this Contract until any replacement bonds required by this Section are accepted by the District.

11.2.11 To the extent, if any, that the Guaranteed Maximum Price is increased in accordance with the Contract, the Design-Build Entity shall, upon request of the District, cause the amount of the bonds to be increased accordingly and shall promptly deliver satisfactory evidence of such increase to the District.

11.2.12 To the extent available, the bonds shall further provide that no change or alteration of the Contract (including, without limitation, an increase in the Guaranteed Maximum Price, as referred to above), extensions of time, or modifications of the time, terms, or conditions of payment to the Design-Build Entity will release the surety. If the Design-Build Entity fails to furnish any required bond, the District may terminate the Contract for cause

ARTICLE 12. UNCOVERING AND CORRECTION OF CONSTRUCTION WORK

12.1 UNCOVERING OF WORK ON THE PROJECT

12.1.1 If a portion of the Construction Work is covered contrary to the District's Representative's request or direction, or contrary to the requirements of the Contract Documents, it must, if required in writing by the District's Representative, be uncovered for the District's Representative's observation and be replaced at the Design-Build Entity's expense without adjustment of the Guaranteed Completion Date or the Guaranteed Maximum Price.

12.1.2 If a portion of the Construction Work has been covered, which is not required by the Contract Documents to be observed or inspected prior to its being covered and which the District's Representative has not specifically requested to observe prior to its being covered, the District's Representative may request to see such Construction Work and it shall be uncovered and replaced by the Design-Build Entity. If such Construction Work is in accordance with the Contract Documents, the costs of uncovering and replacing the Construction Work shall be added to the Guaranteed Maximum Price by Change Order; and if the uncovering and replacing

of the Construction Work extends the Guaranteed Completion Date, an appropriate adjustment of the Guaranteed Completion Date shall be made by Change Order. If such Construction Work is not in accordance with the Contract Documents, the Design-Build Entity shall pay such costs and shall not be entitled to an adjustment of the Guaranteed Completion Date or the Guaranteed Maximum Price.

12.2 CORRECTION OF DEFECTIVE WORK AND GUARANTEE TO REPAIR PERIOD

12.2.1 The term "Guarantee To Repair Period" means a period of one (1) year, unless a longer period of time is specified, commencing from the Date of Final Completion.

12.2.2 The Design-Build Entity shall (1) correct Defective Work that becomes apparent during the progress of the work on the Project or during the Guarantee To Repair Period and (2) replace, repair, or restore to the District's satisfaction any other parts of the work on the Project and any other real or personal property which is damaged or destroyed as a result of Defective Work or the correction of Defective Work. The Design-Build Entity shall promptly commence such correction, replacement, repair, or restoration upon notice from the District's Representative or the District, but in no case later than ten (10) days after receipt of such notice; and the Design-Build Entity shall diligently and continuously prosecute such correction to completion. The Design-Build Entity shall bear all costs of such correction, replacement, repair, or restoration, and all Losses resulting from such Defective Work, including additional testing, inspection, and compensation for the District's Representative's services and expenses. The Design-Build Entity shall perform corrective work on the Project at such times that are acceptable to the District and in such a manner as to avoid, to the extent practicable, disruption to the District's activities.

12.2.3 If immediate correction of Defective Work is required for life safety or the protection of property and is performed by the District or Separate Contractors, the Design-Build Entity shall pay to the District all reasonable costs of correcting such Defective Work. The Design-Build Entity shall replace, repair, or restore to the District's satisfaction any other parts of the Construction Work and any other real or personal property which is damaged or destroyed as a result of such Defective Work or the correction of such Defective Work.

12.2.4 The Design-Build Entity shall remove from the Project site portions of the Construction Work and materials which are not in accordance with the Contract Documents and which are neither corrected by the Design-Build Entity nor accepted by the District.

12.2.5 If the Design-Build Entity fails to commence correction of Defective Work within ten (10) days after notice from the District or the District's Representative or fails to diligently prosecute such correction to completion, the District may correct the Defective Work in accordance with Section 2.4; and, in addition, the District may remove the Defective Work and store salvageable materials and equipment at the Design-Build Entity's expense.

12.2.6 If The Design-Build Entity fails to pay the costs of such removal and storage as required by Subsections 12.2.4 and 12.2.5 within ten (10) days after written demand, the District may, without prejudice to other remedies, sell such materials at auction or at private sale, or otherwise dispose of such material. The Design-Build Entity shall be entitled to the proceeds of such sale, if any, in excess of the costs and damages for which the Design-Build Entity is liable to the District, including compensation for the District's Representative's services and expenses. If such proceeds of sale do not cover costs and damages for which the Design-Build Entity is liable to the District, the Guaranteed Maximum Price shall be reduced by such deficiency. If there are no

remaining payments due the Design-Build Entity or the remaining payments are insufficient to cover such deficiency, the Design-Build Entity shall promptly pay the Difference to the District.

12.2.7 The Design-Build Entity's obligations under this Article 12 are in addition to and not in limitation of its warranty obligations hereunder or any other obligation of the Design-Build Entity under the Contract Documents. Enforcement of the Design-Build Entity's express warranties and guarantees to repair contained in the Contract Documents shall be in addition to and not in limitation of any other rights or remedies the District may have under the Contract Documents or at law or in equity for Defective Work. Nothing contained in this Article 12 shall be construed to establish a period of limitation with respect to other obligations of the Design-Build Entity under the Contract Documents. Establishment of the Guarantee To Repair Period relates only to the specific obligation of the Design-Build Entity to correct the work on the Project and in no way limits either the Design-Build Entity's liability for Defective Work or the time within which proceedings may be commenced to enforce the Design-Build Entity's obligations under the Contract Documents.

ARTICLE 13. TERMINATION OR SUSPENSION OF THE CONTRACT

13.1 TERMINATION BY THE DESIGN-BUILD ENTITY

13.1.1 Subject to Subsection 13.1.2, the Design-Build Entity shall have the right to terminate the Contract only upon the occurrence of one of the following:

13.1.1.1 The work on the Project is stopped for ninety (90) consecutive days, through no act or fault of the Design-Build Entity, any Subcontractor, or any employee or agent of the Design-Build Entity or any Subcontractor, due to an issuance of an order of a court or other public authority having jurisdiction or due to an act of government, such as a declaration of a national emergency making material unavailable.

13.1.1.2 The District fails to perform any material obligation under the Contract Documents and fails to cure such default within thirty (30) days after receipt of notice from the Design-Build Entity stating the nature of such default.

13.1.1.3 Repeated suspensions by the District, other than such suspensions as are agreed to by the Design-Build Entity under Section 13.3, which constitute in the aggregate more than 20% of the Guaranteed Completion Date or ninety (90) days, whichever is larger.

13.1.2 Upon the occurrence of one of the events listed in Subsection 13.1.1, the Design-Build Entity may, upon ten (10) days additional notice to the District and the District's Representative, and provided that the condition giving rise to the Design-Build Entity's right to terminate is continuing, terminate the Contract.

13.1.3 Upon termination by the Design-Build Entity, the District will pay to the Design-Build Entity the sum determined by Subsection 13.4.4. Such payment will be the sole and exclusive remedy to which the Design-Build Entity is entitled in the event of termination of the Contract by the Design-Build Entity pursuant to Section 13.1; and the Design-Build Entity will be entitled to no other compensation or damages and expressly waives the same.

13.2 TERMINATION BY THE DISTRICT FOR CAUSE

13.2.1 The District will have the right to terminate the Contract for cause at any time after the occurrence of any of the following events:

13.2.1.1 The Design-Build Entity becomes insolvent or files for relief under the bankruptcy laws of the United States,

13.2.1.2 The Design-Build Entity makes a general assignment for the benefit of its creditors or fails to pay its debts as the same become due.

13.2.1.3 A receiver is appointed to take charge of the Design-Build Entity's property.

13.2.1.4 The commencement or completion of any work activity is thirty (30) days or more behind the Date set forth in the Contract Schedule for such work activity, and which results in an Inexcusable Delay.

13.2.1.5 The Design-Build Entity abandons work on the Project.

13.2.2 Upon the occurrence of any of the following events, the District will have the right to terminate the Contract for cause if the Design-Build Entity fails to promptly commence to cure such default and diligently prosecute such cure within ten (10) days after notice from the District, or within such longer period of time as is reasonably necessary to complete such cure:

13.2.2.1 The Design-Build Entity persistently or repeatedly refuses or fails to supply skilled supervisory personnel, an adequate number of properly skilled workers, proper materials, or necessary equipment to prosecute the work on the Project in accordance with the Contract Documents.

13.2.2.2 The Design-Build Entity fails to make prompt payment of amounts properly due Subcontractors after receiving payment from the District.

13.2.2.3 The Design-Build Entity disregards Applicable Code Requirements.

13.2.2.4 The Design-Build Entity persistently or materially fails to execute the work on the Project in accordance with the Contract Documents.

13.2.2.5 The Design-Build Entity is in default of any other material obligation under the Contract Documents.

13.2.2.6 The Design-Build Entity persistently or materially fails to comply with applicable safety requirements.

13.2.3 Upon any of the occurrences referred to in Subsections 13.2.1 and 13.2.2, the District may, at its election and by notice to the Design-Build Entity, terminate the Contract and take possession of the Project site and all materials, supplies, equipment, tools, and construction equipment and machinery thereon owned by the Design-Build Entity; accept the assignment of any or all of the subcontracts; and then complete the Project by any method the District may deem expedient. If requested by the District, the Design-Build Entity shall remove any part or all of the Design-Build Entity's materials, supplies, equipment, tools, and construction equipment and machinery from the Project site within seven (7) days of such request; and if the Design-Build

Entity fails to do so, the District may remove or store, and after ninety (90) days sell, any of the same at the Design-Build Entity's expense.

13.2.4 If the Contract is terminated by the District as provided in this Section 13.2, the Design-Build Entity shall not be entitled to receive any further payment until the expiration of thirty-five (35) days after Final Completion and acceptance of all work on the Project by the District.

13.2.5 If the unpaid balance of the Guaranteed Maximum Price exceeds the cost of completing the Project, including all additional costs and expenses made necessary thereby, including costs for the District staff time, plus all Losses sustained, including any liquidated damages provided under the Contract Documents, and the lost CSI rebate, if applicable, such excess shall be paid to the Design-Build Entity. If such costs, expenses, Losses, lost CSI rebate, and liquidated damages exceed the unpaid balance of the Guaranteed Maximum Price, the Design-Build Entity shall pay such excess to the District.

13.2.6 No termination or action taken by the District after termination shall prejudice any other rights or remedies of the District provided by law or by the Contract Documents upon such termination; and the District may proceed against the Design-Build Entity to recover all Losses suffered by the District.

13.3 SUSPENSION BY THE DISTRICT FOR CONVENIENCE

13.3.1 The District may, at any time and from time to time, without cause, order the Design-Build Entity, in writing, to suspend, delay, or interrupt the work on the Project in whole or in part for such period of time, up to ninety (90) days, as the District may determine, with such period of suspension to be computed from the Date of delivery of the written order. Such order shall be specifically identified as a "Suspension Order" under this Section 13.3. The work on the Project may be stopped for such further period as the parties may agree. Upon receipt of a Suspension Order, the Design-Build Entity shall, at the District's expense, comply with its terms and take all reasonable steps to minimize costs allocable to the work covered by the Suspension Order during the period of work stoppage. Within ninety (90) days after the issuance of the Suspension Order, or such extension to that period as is agreed upon by the Design-Build Entity and the District, the District shall either cancel the Suspension Order or delete the work covered by such Suspension Order by issuing a Change Order.

13.3.2 If a Suspension Order is canceled or expires, the Design-Build Entity shall continue with the work on the Project. A Change Order will be issued to cover any adjustments of the Guaranteed Maximum Price or the Guaranteed Completion Date necessarily caused by such suspension. Any Claim by the Design-Build Entity for an adjustment of the Guaranteed Maximum Price or the Guaranteed Completion Date shall be made within twenty-one (21) days after the end of the work suspension. The Design-Build Entity agrees that submission of its claim within said twenty-one (21) days is an express condition precedent to its right to Arbitrate or Litigate such a claim.

13.3.3 The provisions of this Section 13.3 shall not apply if a Suspension Order is not issued by the District. A Suspension Order shall not be required to stop the work on the Project as permitted or required under any other provision of the Contract Documents.

13.4 TERMINATION BY THE DISTRICT FOR CONVENIENCE

13.4.1 The District may, at its option, terminate this Contract, in whole or from time to time in part, at any time by giving notice to the Design-Build Entity. Upon such termination,

the Design-Build Entity agrees to waive any claims for damages, including loss of anticipated profits, on account thereof; and, as the sole right and remedy of the Design-Build Entity, the District shall pay the Design-Build Entity in accordance with Subsection 13.4.4.

13.4.2 Upon receipt of notice of termination under this Section 13.4, the Design-Build Entity shall, unless the notice directs otherwise, do the following:

13.4.2.1 Immediately discontinue the work on the Project to the extent specified in the notice.

13.4.2.2 Place no further orders or subcontracts for materials, equipment, services, or facilities, except as may be necessary for completion of such portion of the work on the Project as is not discontinued.

13.4.2.3 Promptly cancel, on the most favorable terms reasonably possible, all subcontracts to the extent they relate to the performance of the Discontinued portion of the work on the Project.

13.4.2.4 Thereafter do only such work as may be necessary to preserve and protect work on the Project already in progress and to protect materials, plants, and equipment on the Project site or in transit thereto.

13.4.3 Upon such termination, the obligations of the Contract shall continue as to portions of the work on the Project already performed and, subject to the Design-Build Entity's obligations under Subsection 13.4.2, as to bona fide obligations assumed by the Design-Build Entity prior to the Date of termination.

13.4.4 Upon such termination, the District shall pay to the Design-Build Entity the sum of the following:

13.4.4.1 The amount of the Guaranteed Maximum Price allocable to the portion of the work on the Project properly performed by the Design-Build Entity as of the Date of termination, less sums previously paid to the Design-Build Entity.

13.4.4.2 Plus previously unpaid costs of any items delivered to the Project site which were fabricated for subsequent incorporation in the work on the Project.

13.4.4.3 Plus any proven Losses with respect to materials and equipment directly resulting from such termination.

13.4.4.4 Plus reasonable demobilization costs.

13.4.4.5 Plus reasonable costs of preparing a statement of the aforesaid costs, expenses, and Losses in connection with such termination.

13.4.5 The above payment shall be the sole and exclusive remedy to which the Design-Build Entity is entitled in the event of termination of the Contract by the District pursuant to Section 13.4; and the Design-Build Entity will be entitled to no other compensation or damages and expressly waives same.

ARTICLE 14. STATUTORY REQUIREMENTS

14.1 HOURS OF WORK

14.1.1 The Design-Build Entity and Subcontractors shall furnish sufficient forces to ensure the prosecution of the work on the Project in accordance with the Construction Schedule and in such a manner to allow for the full and adequate completion of the Project within the Guaranteed Completion Date.

14.1.2 Work on the Project shall be performed during regular working hours, except that in the event of an emergency or when required to complete the work on the Project in accordance with job progress, work may be performed outside of regular working hours with advance written notice to the District. Regular working hours shall be per local ordinance and shall not be changed except with consent of the District.

14.1.3 As may be applicable by law, provided in Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, eight (8) hours of labor shall constitute a legal day's work. The time of service of any worker employed at any time by the Design-Build Entity or by any Subcontractor on any subcontract under this Contract, upon the work or upon any part of the work contemplated by this Contract, is limited and restricted to eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except as hereinafter provided. Notwithstanding the provision hereinabove set forth, work performed by employees of Design-Build Entity in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon this public work compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1-1/2) times the basic rate of pay.

14.1.4 As may be applicable by law, the Design-Build Entity shall pay to the District a penalty of Twenty-five Dollars ($25.00) for each worker employed in the execution of this Contract by the Design-Build Entity, or by any Subcontractor, for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any calendar day and forty (40) hours in any one (1) calendar week, in violation of the provisions of Article 3 (commencing at § 1810), Chapter 1, Part 7, Division 2 of the Labor Code, unless compensation for the workers so employed by Design-Build Entity is not less than one and one-half (1-1/2) times the basic rate of pay for all hours worked in excess of eight (8) hours per day.

14.1.5 If the work done after hours is required by the Contract to be done outside the Design-Build Entity's or the Inspector's regular working hours, the costs of any inspections, if required to be done outside normal working hours, shall be borne by the District.

14.1.6 If the District allows the Design-Build Entity to do work outside regular working hours for the Design-Build Entity's own convenience, the costs of any inspections required outside regular working hours shall be invoiced to the Design-Build Entity by the District and deducted from the next Progress Payment.

14.1.7 If the Design-Build Entity elects to perform work outside the Inspector's regular working hours, costs of any inspections required outside regular working hours shall be invoiced to the Design-Build Entity by the District and deducted from the next Progress Payment.

14.1.8 No work on the Project or other activities by or on behalf of the Design-Build Entity which presents a hazard or unreasonable disruption to the staff or students of any school shall be allowed while school is in session. The determination as to whether work on the Project or some other activity presents a hazard or constitutes an unreasonable disruption to the staff or students of any school shall be made by and pursuant to the sole discretion of the District's

Facilities Department. All work on the Project or other activities which could present a hazard or unreasonable disruption to the staff or students of a school shall be performed before or after school is in session, on weekends, or on a school holiday. Neither the Design-Build Entity nor its subcontractors or anyone working on behalf of the Design-Build Entity or subcontractors shall be entitled to additional compensation or GCD for having to arrange their work schedule so as not to violate the provisions of this Section. The Design-Build Entity, subcontractors and persons working on behalf of the Design-Build Entity and subcontractors shall be expected to arrange such work and other activities in advance so as to avoid creating monetary or time impacts.

14.2 WAGE RATES, TRAVEL, AND SUBSISTENCE

14.2.1 The Design-Build Entity is aware of the requirements of California Labor Code sections 1720 *et seq*. and 1770 *et seq*., as well as California Code of Regulations, Title 8, Section 16000 *et seq*. ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects. Since this Project involves an applicable "public works" or "maintenance" project, as defined by the Prevailing Wage Laws, and since the total compensation is $1,000 or more, the Design-Build Entity agrees to fully comply with such Prevailing Wage Laws. The Design-Build Entity shall obtain a copy of the prevailing rates of *per diem* wages at the commencement of this Contract from the website of the Division of Labor Statistics and Research of the Department of Industrial Relations located at www.dir.ca.gov/dlsr/. In the alternative, the Design-Build Entity may view a copy of the prevailing rates of *per diem* wages at the District's Business Office. The Design-Build Entity shall make copies of the prevailing rates of *per diem* wages for each craft, classification or type of worker needed to perform work on the Project available to interested parties upon request, and shall post copies at the Design-Build Entity's principal place of business and at the Project site. The Design-Build Entity shall defend, indemnify and hold the District, its elected officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or allege failure to comply with the Prevailing Wage Laws. The Design-Build Entity shall prepare and provide to the District and shall cause each Subcontractor performing any portion of the Work under this Contract to prepare and provide to the District an accurate and certified payroll record, showing the name, address, social security number, work classification, straight time, and overtime hours worked each day and week, and the actual *per diem* wages paid to each journeyman, apprentice, worker, or other employee employed by the Contractor and/or each Subcontractor in connection with the Work. In the event of noncompliance with certified payroll record requirements specified herein, the DBE shall have ten (10) days in which to comply subsequent to receipt of written notice specifying any item or actions necessary to ensure compliance herewith. Should noncompliance still be evident after such ten (10) day period, the DBE shall, as a penalty to the District, forfeit one hundred dollars ($100.00) for each day, or portion thereof, for each worker until strict compliance is effectuated. Upon the request of the California Department of Industrial Relations, such penalties shall be withheld from contract payments.

14.2.2 Holiday and overtime work, when permitted by law, shall be paid for at a rate of at least one and one-half (1½) times the above specified rate of *per diem* wages, unless otherwise specified. Holidays shall be defined in the Collective Bargaining Contract applicable to each particular craft, classification, or type of worker employed.

14.2.3 The Design-Build Entity shall pay and shall cause to be paid each worker engaged in work on the Project not less than the general prevailing rate of *per diem* wages determined by the Director, regardless of any contractual relationship which may be alleged to exist between the Design-Build Entity or any Subcontractor and such workers.

14.2.4 The Design-Build Entity shall pay and shall cause to be paid to each worker needed to execute the work on the Project travel and subsistence payments, as such travel and subsistence payments are defined in the applicable collective bargaining Contracts filed with the Department of Industrial Relations in accordance with Labor Code § 1773.8.

14.2.5 Pursuant to Labor Code § 1775, the Design-Build Entity shall as a penalty to the District, forfeit Fifty Dollars ($50.00) for each calendar day, or portion thereof, for each worker paid less than the prevailing rate of *per diem* wages, determined by the Director, for such craft or classification in which such worker is employed for any public work done under the Contract by the Design-Build Entity or by any Subcontractor under it. The amount of the penalty shall be determined by the Labor Commission and shall be based on consideration of the Design-Build Entity's mistake, inadvertence, or neglect in failing to pay the correct prevailing rate of *per diem* wage, the previous record of the Design-Build Entity in meeting his or her prevailing rate of *per diem* wage obligations, or the Design-Build Entity's willful failure to pay the correct prevailing rate of *per diem* wages. A mistake, inadvertence, or neglect in failing to pay the correct prevailing rate of *per diem* wage is not excusable if the Design-Build Entity had knowledge of it or the obligations under this part. The difference between such prevailing rate of *per diem* wage and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the prevailing rate of *per diem* wage shall be paid to each work by the Design-Build Entity.

14.2.6 Any worker employed to perform work on the Project, which work is not covered by any craft or classification listed in the general prevailing rate of *per diem* wages determined by the Director, shall be paid not less than the minimum rate of wages specified therein for the craft or classification which most nearly corresponds to the work on the Project to be performed by them, and such minimum wage rate shall be retroactive to time of initial employment of such person in such craft or classification.

14.2.7 Pursuant to Labor Code § 1773.1, *per diem* wages are deemed to include employer payments for health and welfare, pension, vacation, travel time, and subsistence pay as provided for in Labor Code § 1773.8.

14.2.8 The Design-Build Entity shall post at appropriate conspicuous points on the Site, a schedule showing all determined minimum wage rates and all authorized deductions, if any, from unpaid wages actually earned.

14.2.9 The Design-Build Entity, or any subcontractor working under the Design-Build Entity may not perform work on a public works project with a subcontractor who is ineligible to perform work on a public project pursuant to Section 1777.1 or Section 1777.7 of the California Labor Code. Any contract on a public works project entered into between the Design-Build Entity and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract. Any public money that is paid, or may have been paid to a debarred subcontractor by the Design-Build Entity on the project shall be returned to the District. The Design-Build Entity shall be responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.

14.3 APPRENTICES

14.3.1 All apprentices employed by the Design-Build Entity to perform services under the Contract shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which he or she is employed, and shall be employed only at the work of the craft or trade to which he or she is registered. Only apprentices, as defined in § 3077 of the Labor Code,

who are in training under apprenticeship standards and written apprenticeship Contracts under Chapter 4 (commencing with § 3070) of Division 3, are eligible to be employed under this Contract. The employment and training of each apprentice shall be in accordance with the apprenticeship standards and apprentice Contracts under which he or she is training.

14.3.2 When the Design-Build Entity to whom the Contract is awarded by the District, or any Subcontractor under him or her, in performing any of the work on the Project under the Contract or subcontract, employs workers in any apprenticeable craft or trade, the Design-Build Entity and Subcontractor shall apply to the joint apprenticeship committee administering the apprenticeship standards of the craft or trade in the area of the Site of the Project, for a certificate approving the Design-Build Entity or Subcontractor under the apprenticeship standards for the employment and training of apprentices in the area or industry affected. However, approval as established by the joint apprenticeship committee or committees shall be subject to the approval of the Administrator of Apprenticeship. The joint apprenticeship committee or committees, subsequent to approving the subject the Design-Build Entity or Subcontractor, shall arrange for the dispatch of apprentices to the Design-Build Entity or Subcontractor in order to comply with this section. The Design-Build Entity and every Subcontractor shall submit the contract award information to the applicable joint apprenticeship committee which shall include an estimate of journeyman hours to be performed under the Contract, the number of apprentices to be employed, and the approximate dates the apprentices will be employed. There shall be an affirmative duty upon the joint apprenticeship committee or committees administering the apprenticeship standards of the crafts or trade in the area of the Site of the public work, to ensure equal employment and affirmative action and apprenticeship for women and minorities. The Design-Build Entities or Subcontractors shall not be required to submit individual applications for approval to local joint apprenticeship committees provided they are already covered by the local apprenticeship standards. The ratio of work performed by apprentices to journeymen, who shall be employed in the craft or trade on the Project, may be the ratio stipulated in the apprenticeship standards under which the joint apprenticeship committee operates, but, except as otherwise provided in this section, in no case shall the ratio be less than one (1) hour of apprentice work for every five (5) hours of labor performed by a journeyman. However, the minimum ratio for the land surveyor classification shall not be less than one (1) apprentice for each five (5) journeymen.

14.3.3 Any ratio shall apply during any day or portion of a day when any journeyman, or the higher standard stipulated by the joint apprenticeship committee, is employed at the job Site and shall be computed on the basis of the hours worked during the day by journeymen so employed, except for the land surveyor classification. The Design-Build Entity shall employ apprentices for the number of hours computed as above before the end of the Contract. However, the Design-Build Entity shall endeavor, to the greatest extent possible, to employ apprentices during the same time period that the journeymen in the same craft or trade are employed at the job Site. Where an hourly apprenticeship ratio is not feasible for a particular craft or trade, the Division of Apprenticeship Standards, upon application of a joint apprenticeship committee, may order a minimum ratio of not less than one (1) apprentice for each five (5) journeymen in a craft or trade classification.

14.3.4 The Design-Build Entity or Subcontractor, if he or she is covered by this section upon the issuance of the approval certificate, or if he or she has been previously approved in the craft or trade, shall employ the number of apprentices or the ratio of apprentices to journeymen stipulated in the apprenticeship standards. Upon proper showing by the Design-Build Entity that he or she employs apprentices in the craft or trade in the state on all of his or her contracts on an annual average of not less than one (1) hour of apprentice work for every five (5) hours of labor performed by a journeyman, or in the land surveyor classification, one (1) apprentice for each five (5) journeymen, the Division of Apprenticeship Standards may grant a certificate exempting the Design-Build Entity from the 1-to-5 hourly ratio as set forth in this section. This section shall

not apply to contracts of general contractors or to contracts of specialty contractors not bidding for work through a general or prime contractor, when the contracts of general contractors or those specialty contractors involve less than Thirty Thousand Dollars ($30,000) or twenty (20) Days. Any work performed by a journeyman in excess of eight (8) hours per day or forty (40) hours per week, shall not be used to calculate the hourly ratio required by this section.

14.3.4.1 Apprenticeable craft or trade" as used in this Article means a craft or trade determined as an apprenticeable occupation in accordance with the rules and regulations prescribed by the Apprenticeship Council. The joint apprenticeship committee shall have the discretion to grant a certificate, which shall be subject to the approval of the Administrator of Apprenticeship, exempting the Design-Build Entity from the 1-to-5 ratio set forth in this Article when it finds that any one of the following conditions is met:

14.3.4.1.1 Unemployment for the previous three-month period in the area exceeds an average of fifteen percent (15%).

14.3.4.1.2 The number of apprentices in training in such area exceeds a ratio of 1-to-5.

14.3.4.1.3 There is a showing that the apprenticeable craft or trade is replacing at least one-thirtieth (1/30) of its journeymen annually through the apprenticeship training, either on a statewide basis or on a local basis.

14.3.4.1.4 Assignment of an apprentice to any work performed under this contract would create a condition which would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyman.

14.3.5 When exemptions are granted to an organization which represents the Design-Build Entity in a specific trade from the 1-to-5 ratio on a local or statewide basis, the Design-Build Entity will not be required to submit individual applications for approval to local joint apprenticeship committees, if they are already covered by the local apprenticeship standards.

14.4 THIRD-PARTY CLAIMS (Pub. Contract Code § 9201.)

14.4.1 The District will provide the Design-Build Entity with timely notice of any third party claim relating to the Contract for the Project. The District also retain full authority to compromise or otherwise settle any claim related to the Contract for the Project.

14.5 ANTI-TRUST CLAIM ASSIGNMENT (Pub. Contract Code §7103.5).)

14.5.1 The District shall provide the Design-Build Entity with timely notification of the receipt of any third-party claim, relating to the Contract and the District is entitled to recover its reasonable costs incurred in providing such notification.

14.5.2 At final payment, contractor or subcontractor must agree to assign awarding party all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2 commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract.

ARTICLE 15. MISCELLANEOUS PROVISIONS

15.1 GOVERNING LAW

15.1.1 This Contract shall be governed by the laws of the State of California, venue shall be in the locale of the Project

15.2 SUCCESSORS AND ASSIGNS

15.2.1 The District and the Design-Build Entity respectively bind themselves and their successors, permitted assigns, and legal representatives to the other party and to the successors, permitted assigns, and legal representatives of such other party in respect to covenants, Contracts, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract, in whole or in part, without prior written consent of the other party. Notwithstanding any such assignment, each of the original contracting parties shall remain legally responsible for all of its obligations under the Contract.

15.3 RIGHTS AND REMEDIES

15.3.1 All the District's rights and remedies under the Contract Documents will be cumulative and in addition to, and not in limitation of, all other rights and remedies of the District under the Contract Documents or otherwise available at law or in equity.

15.3.2 No action or failure to act by the District or the District's Representative will constitute a waiver of a right afforded them under the Contract, nor will such action or failure to act constitute approval of or acquiescence in a condition or breach thereunder, except as may be specifically agreed in writing. No waiver by the District or the District's Representative of any condition, breach or default will constitute a waiver of any other condition, breach or default; nor will any such waiver constitute a continuing waiver.

15.3.3 No provision contained in the Contract Documents shall create or give to third parties any claim or right of action against the District, the District's Representative, or the Design-Build Entity.

15.4 SURVIVAL

15.4.1 The provisions of the Contract which by their nature survive termination of the Contract or Final Completion, including all warranties, indemnities, payment obligations, and the District's right to audit the Design-Build Entity's books and records, shall remain in full force and effect after Final Completion or any termination of the Contract.

15.5 COMPLETE CONTRACT

15.5.1 The Contract Documents constitute the full and complete understanding of the parties and supersede any previous agreements or understandings, oral or written, with respect to the subject matter hereof. The Contract may be modified only by a written instrument signed by both parties or as provided in Article 7.

15.6 SEVERABILITY OF PROVISIONS

15.6.1 If any one or more of the provisions contained in the Contract Documents should be invalid, illegal, or unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby.

15.7 THE DISTRICT'S RIGHT TO AUDIT

15.7.1 The District and entities and agencies designated by the District will have access to and the right to audit and the right to copy at the District's cost all of the Design-Build Entity's books, records, contracts, correspondence, instructions, drawings, receipts, vouchers, purchase orders, and memoranda relating to the Design-Build Entity shall preserve all such records and other items for a period of at least three (3) years after Final Completion.

15.8 NOTICES

15.8.1 Except as otherwise provided, all notices, requests, demands, and other communications to be given under the Contract Documents shall be in writing and shall be transmitted by one of the following methods:

15.8.1.1 Personally delivered.

15.8.1.2 Sent by telecopy where receipt is confirmed.

15.8.1.3 Sent by courier where receipt is confirmed.

15.8.1.4 Sent by registered or certified mail, postage prepaid, return receipt requested.

15.8.2 Such notices and other communications shall be deemed given and received upon actual receipt in the case of all except registered or certified mail; and in the case of registered or certified mail, on the Date shown on the return receipt or the Date delivery during normal business hours was attempted. Such notices and communications shall be given at the respective street addresses set forth in the Contract. Such street addresses may be changed by notice given in accordance with this Section 15.8.

15.9 TIME OF THE ESSENCE

15.9.1 Time limits stated in the Contract Documents are of the essence of the Contract.

15.10 STATUTORY LIMITATION

15.10.1 Commencement of statutory limitation periods and statute of repose periods shall be as follows:

15.10.1.1 As to acts or failures to act occurring prior to Final Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than such date of Final Completion.

15.10.1.2 As to acts or failures to act occurring after the Date of Final Completion, any applicable statute of limitations shall commence to run and any alleged cause of action shall be deemed to have accrued in any and all events not later than the Date of any act or failure to act by the Design-Build Entity pursuant to any applicable warranty, the Date of any correction of work on the Project or failure to correct work by the Design-Build Entity, or the Date of actual commission of any other act or failure to perform any duty or obligation by the Design-Build Entity or the District, whichever occurs last.

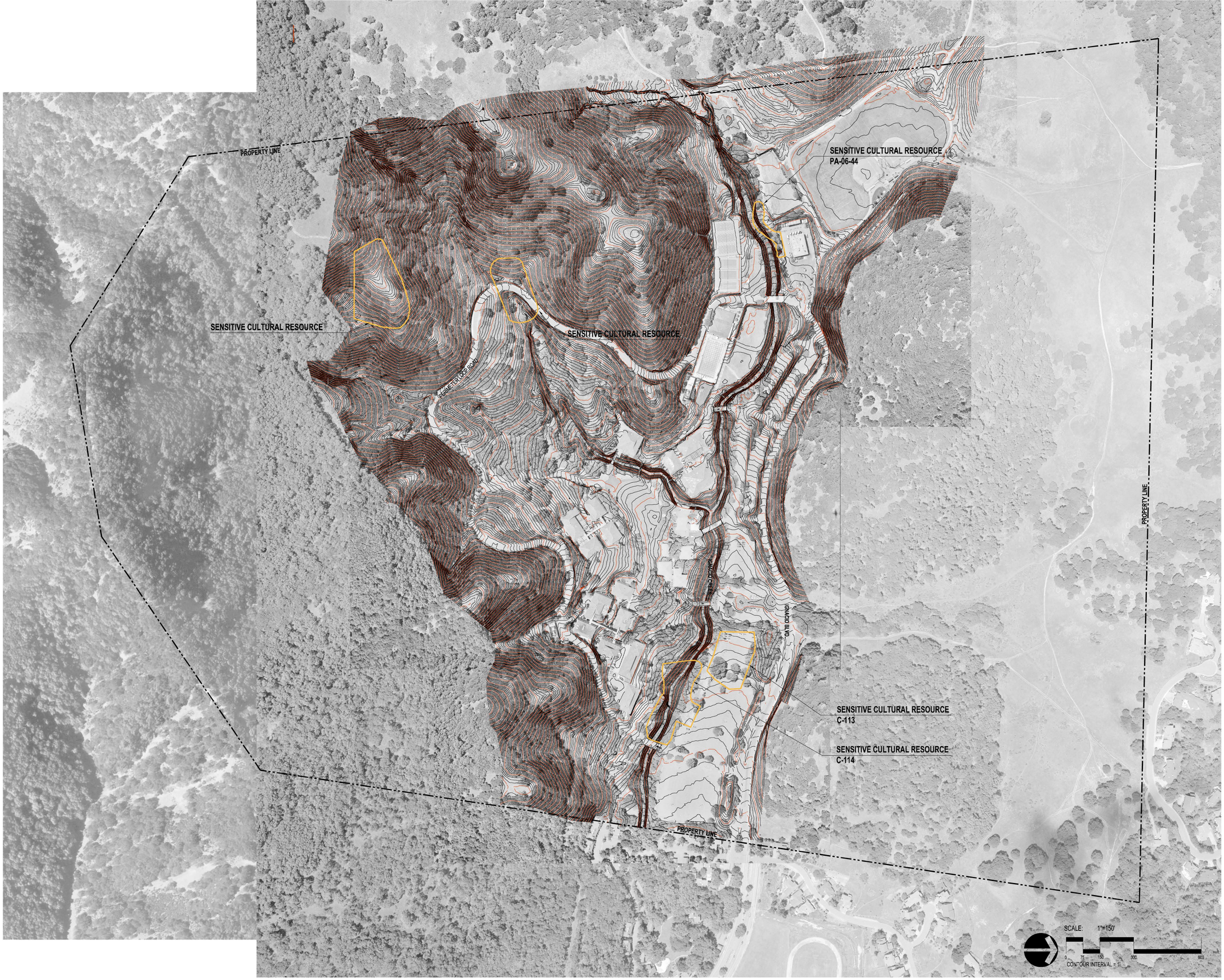
15.10.1.3 The time period for the applicable Statute of Repose shall commence to run at Final Completion of the Project.

15.11 CORRECTION OF ERRORS AND OMISSIONS

15.11.1 The Design-Build Entity agrees to correct any error or omission in the Construction Documents or Contract Documents at no additional cost to the District.

15.12 INTERPRETATION

15.12.1 This Contract shall not be construed in favor of or against any party, but shall be construed as if all parties prepared this Contract.



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key plan

rev.	date	issue

CULTURAL RESOURCES IVC

District Project #

AE Project # date: Jan. 24, 2007

drawn by: checked by: XX

scale: 1"=150'-0"

Measure C
Bond Spending Implementation Plan for College of Marin (2007-2013)

INDIAN VALLEY CAMPUS

Draft Environmental Impact Report

SCH #2007032097

July 2007

Prepared for
Marin Community College District

Prepared by
Amy Skewes-Cox, AICP
Environmental Planner

"The College of Marin has helped me find the passion to excel."

"DJ" Bola, College of Marin Student, 2007*

* "DJ" Bola spoke at the President's Circle breakfast held on May 1, 2007.

MEASURE C BOND SPENDING IMPLEMENTATION PLAN

FOR

COLLEGE OF MARIN (2007-2013): INDIAN VALLEY CAMPUS

DRAFT ENVIRONMENTAL IMPACT REPORT

SCH #2007032097

Prepared for

Marin Community College District

Prepared by

Amy Skewes-Cox, AICP
Environmental Planner

With

Donald Ballanti
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Fehr & Peers
Royston Hanamoto, Alley & Abey
Illingworth & Rodkin, Inc.
LSA Associates
Natalie Macris
Peak & Associates
Placemakers
Questa Engineering
Ripley & Scoggin
Wordsmith Word Processing

JULY 2007

PROJECT TITLE:	Measure C Bond Spending Implementation Plan for College of Marin (2007-2013), Indian Valley Campus, Draft Environmental Impact Report
LEAD AGENCY:	Marin Community College District
PROJECT LOCATION:	Indian Valley Campus
JURISDICTION:	City of Novato
CHANGE IN SQUARE FOOTAGE:	25,000 to 37,000 new gross square feet
PRIMARY NEW BUILDINGS:	Main Building Complex
PRIMARY RENOVATED STRUCTURES:	Transportation Technology Complex
REZONING:	None
GENERAL PLAN AMENDMENT:	None
TIMING OF CONSTRUCTION:	2007 to 2013
EIR SCHEDULE:	Draft EIR out for review: July 24 to September 6, 2007 Final EIR published: Approximately October 2007 Certification by Marin Community College District Board of Trustees: Anticipated November 2007
COLLEGE WEBSITE FOR CEQA DOCUMENTS:	http://www.marin.edu/MeasureC/public_notices/index.htm

Written comments on this Draft EIR should be submitted by 5:00 PM, **September 6, 2007, to:**

Ms. Debra Mathau, Construction Manager
Swinerton Management and Consulting
P.O. Box 144003
835 College Avenue, MS-3
Kentfield, CA 94904

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1. INTRODUCTION

This document is an Environmental Impact Report (EIR) prepared in accordance with the California Environmental Quality Act of 1970 (CEQA), as amended. The Marin Community College District is the lead agency for the project evaluated in this EIR.

The proposal to adopt the Bond Spending Implementation Plan (Draft) is a "project," as defined by the Guidelines for Implementation of the California Environmental Quality Act (CEQA Guidelines), Section 15378. The Bond Spending Implementation Plan (also referred to as the "Implementation Plan") can be found on the College's website (http://www.marin.edu) under "Measure C Updates."

The CEQA Guidelines (Section 15064) require the preparation of an EIR when a lead agency determines that there is evidence that a project may have a significant effect on the environment. The need to prepare an EIR for the project was established by the District as a result of a preliminary evaluation of the likely effects of the project. A Notice of Preparation – Draft Environmental Impact Report (NOP) was issued for the proposed project on March 12, 2007.

CEQA requires preparation of an EIR when there is evidence that a project may have a significant effect on the environment.

According to CEQA Section 21002.1: "The purpose of an EIR is to identify the significant effects of a project on the environment, to identify alternatives to the project, and to indicate the manner in which significant effects can be mitigated or avoided." As defined by CEQA Guidelines Section 15382, a "significant effect on the environment" means a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." The EIR process also serves to involve members of the public in the decision-making process.

This EIR has been prepared to provide the Marin Community College District Board of Trustees with the information necessary to decide whether or not to approve the project as currently proposed. The illustrations of the project contained herein, although necessarily conceptual in nature, describe the major features of the project such as site layout, total new estimated square footages on the Indian Valley campus of the College of Marin, and proposed changes in terms of access, utilities, and parking.

This EIR is both a "Program EIR" and a "Project EIR" as defined by CEQA. As stated in CEQA Guidelines Section 15168:

A Program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) *Geographically,*
2) *As logical parts in the chain of contemplated actions,*
3) *In connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, or*
4) *As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways*. (CEQA Guidelines, 2007)

This EIR is a "Program EIR" for the overall Bond Spending Implementation Plan, including the Ignacio Creek Management Plan, which is a component of the Implementation Plan.

A "Project EIR" addresses the environmental impacts of a specific development project. In this case, this EIR addresses the new Main Building Complex and the Transportation Technology Complex at the project level, since schematic drawings had been completed for these buildings as of the printing of this Draft EIR.

When a Program EIR has been adopted for a project, subsequent activities in the program must be examined in light of the Program EIR to determine whether an additional environmental document must be prepared. Because the two main components of the Bond Spending Implementation Plan (i.e., new Main Building Complex and Transportation Technology Complex) have been addressed at a "project level," future CEQA review should not be required for these two projects. Some of the smaller projects that are components of the Implementation Plan may be found to be Categorically Exempt under CEQA and a Notice of Exemption may be filed with the County Clerk.

1.1 PROJECT BACKGROUND

The Bond Spending Implementation Plan for the Indian Valley campus was developed by the District under the direction of the Director of Modernization. A number of consulting firms assisted in the development of the Implementation Plan by first completing detailed assessments of existing conditions on both the Kentfield campus and the Indian Valley campus of the College of Marin. These assessments determined which buildings could be improved by renovations and which buildings needed to be demolished and replaced. The assessments also noted environmental conditions of concern such as fragile areas related to biological resources and cultural resources, areas of high noise levels, and local circulation constraints.

A number of public meetings were also held in order to solicit public input on how the college should develop over the coming years. Once the Draft Bond Spending Implementation Plan was developed, the environmental consultants prepared Initial Study Checklists for both campuses. These Initial Studies and

the Notice of Preparation, stating that an EIR would be prepared, were circulated for public review from March 12 to April 10, 2007. In addition, scoping meetings were held on each campus, to provide an overview of the CEQA process and to solicit input regarding environmental issues of concern. A summary of public comments is provided in Appendix A. The main issues of concern for the Indian Valley campus were the following:

- Desire to draw parking and traffic to the west end of the new Main Building.
- Issue of downstream runoff affecting houses.
- Construction noise.
- Geothermal drilling.
- Issue of repaving Ignacio Boulevard in 2007.
- Archaeological issues.
- Hazards during construction such as hazardous emissions.
- Odors and need for scrubbers and better ventilation.
- Whether operations would be changing.
- Activity at east end of campus such as parking lot use and associated noise.
- Desire to keep bus route at center of "dog-bone."
- Desire to consider visitor parking only and short-term parking at east end of new Main Building.
- Issue of nighttime parking and possible exceptions to allow parking closer to buildings.
- Desire to put high intensity uses at west end of new Main Building such as cafeteria and library.
- How entrance to bioswale area at east end of parking lot will be protected/secure.

The above issues are addressed herein under various topics found in Chapter 4.

1.2 PUBLIC REVIEW

The Draft EIR will be circulated for review and comment for 45 days.

This Draft EIR will be circulated for review and comment by the public and other interested parties, agencies, and organizations for a 45-day period from July 19, 2007 to September 4, 2007. Following public review, a Final EIR will be prepared that responds to comments received during the public review period. The District Board of Trustees will review and consider the Final EIR prior to any decision to approve, revise, or reject the proposed project that is the Bond Spending Implementation Plan. No construction is planned, with the exception of minor categorically exempt projects, until after adoption of the Final EIR and approval of the Implementation Plan. Approval of the project would be

accompanied by written findings for each significant adverse environmental effect identified in the EIR. When making findings, the District must adopt a monitoring or reporting program for mitigation measures that are conditions of project approval and that are necessary to reduce or avoid significant effects on the environment. This monitoring or reporting program is designed to ensure CEQA compliance during project implementation. The project-specific mitigation monitoring program will be included in the Final EIR.

1.3 ORGANIZATION OF THE EIR

This Draft EIR is organized into the following chapters:

Chapter 1, Introduction: Provides an introduction and overview that describes the intended use of this EIR, project background, the EIR process, and organization of the document.

Chapter 2, Summary: Briefly describes the project and concerns associated with it, identifies levels of significance for each impact addressed in the EIR, summarizes the project-specific effects of the project, and compares impacts of the project with those of alternatives to the project.

Chapter 3, Project Description: Contains information on the project site, project objectives, and project characteristics.

Chapter 4, Environmental Setting, Impacts and Mitigation Measures: Contains an analysis of environmental topics. The discussion of each topic is divided into an *Introduction* that identifies background documents used in the analysis; an *Environmental Setting* section that describes baseline environmental information; and an *Environmental Impacts and Mitigation Measures* section that describes project-specific impacts and mitigation measures.

Chapter 5, Alternatives: Assesses impacts of three alternatives to the project, including a No Project Alternative as required by CEQA. The alternatives are compared to the proposed project and an "Environmentally Superior Alternative" is identified.

Chapter 6, CEQA Considerations: Contains sections required by CEQA, including a discussion of cumulative impacts, growth inducement, and significant unavoidable impacts.

Chapter 7, Report Preparation: Lists the persons directly involved in preparing this report.

Chapter 8, Bibliography and Persons Consulted: Lists the persons, agencies, and organizations contacted during preparation of this report.

Chapter 9, Glossary and Abbreviations: Provides a list of commonly used acronyms and the full terminology.

1.4 REFERENCES

CEQA Guidelines, 2007. California Environmental Quality Act, Public Resources Code Sections 21000 to 21178, As Amended January 1. Website: http://www.ceres.ca.gov/ceqa/, May 2.

2. SUMMARY

This section briefly describes the Measure C Bond Spending Implementation Plan for the Indian Valley campus of the College of Marin (the "project") and the environmental issues associated with its adoption and implementation. This section also summarizes the project-specific impacts and mitigation measures identified in this EIR (Table 2-1) and identifies the alternatives to the project that will be considered.

PROJECT UNDER REVIEW

The Bond Spending Implementation Plan proposes one new building and modernization of other buildings.

The proposed project includes the adoption of the proposed Bond Spending Implementation Plan (also referred to as the "Implementation Plan") for the Indian Valley campus, located at the terminus of Ignacio Boulevard in the City of Novato. This Implementation Plan includes the plans for new construction and remodeling on the campus as envisioned in the $249.5 million Measure C Bond Program adopted by the Marin County voters in 2004. At the end of the six-year construction period, the building area on the Indian Valley campus would increase from the current 176,820 gross square feet (gsf) to 201,820 to 213,820 gsf (an increase of 25,000 to 37,000 gsf). The focus of the EIR is on new construction. Remodeling of buildings would not result in any significant impacts and would primarily entail upgrades to interior elements, roofing, and HVAC systems.

The Implementation Plan proposes one new building (see Figure 2-1): a new Main Building Complex to be located on the north side of Ignacio Creek in Parking Lot 2. This complex would house classrooms, general labs, student services, learning labs, and library space. The building would be between 25,000 and 37,000 gross square feet in size. An outdoor "green space" at the south side of the building near the creek is proposed as a student gathering and picnic area. Elevations and a site plan for this building can be found in Appendix E.

Buildings that would be modernized would include the Transportation Technology Complex (Pomo 1 and 2). Pomo 4 and Power Plants 1, 2, and 3 may also be upgraded and/or modernized; this work might include roof replacement and replacement and relocation of the heating distribution system (campus boilers) and replacement of the high-voltage distribution system.

Site improvements on the campus would include landscaping, pathways, lighting, and utilities. A new pedestrian/emergency access bridge is proposed across Ignacio Creek to link the west area of the new Main Building Complex and the rest of the campus to the south. A new geothermal system is proposed in Parking Lots 1 and 2 to allow the District to reduce long-term energy demands of

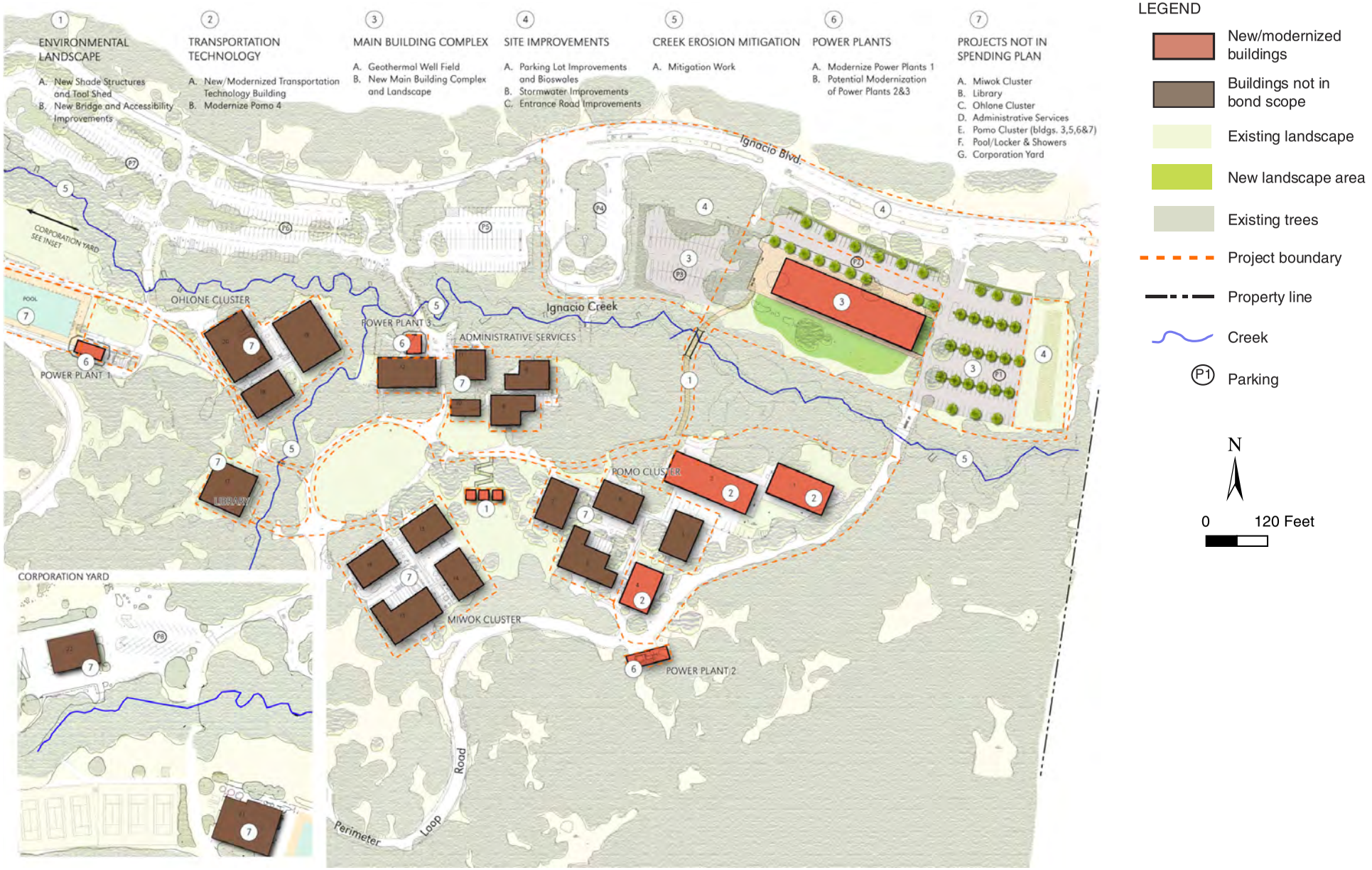

Figure 2-1

SOURCE: RHAA 2007

INDIAN VALLEY CAMPUS BOND SPENDING IMPLEMENTATION PLAN

the proposed Main Building Complex. New bioswales and detention basins are proposed to improve water quality downstream of the campus and to reduce peak stormwater flows. No major access or roadway improvements are proposed.

AREAS OF POTENTIAL CONTROVERSY

In March 2007, the Notice of Preparation (NOP) for this EIR was circulated to state, regional, and local agencies and to several community organizations and individuals.[1] The District received one comment letter on the NOP from the North Marin Water District (NMWD) regarding water conservation, use of recycled water, and required agreements with the NMWD.

A public scoping meeting was held for the proposed project on March 28, 2007 at the campus. The overall project was presented and the public was asked to comment on environmental issues of concern. The public comments addressed potential light and noise issues, archaeological concerns, flooding, and other topics (see Appendix A).

IMPACTS AND MITIGATION MEASURES

Under CEQA, a significant effect on the environment is defined as a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by a project, including effects on land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. The criteria of significance used to determine whether or not effects are significant are included in the introduction to each topic discussion in this EIR.

This EIR presents information in the following 12 impact categories: Land Use and Planning; Geology, Soils and Seismicity; Biological Resources; Hydrology and Water Quality; Hazardous Materials; Cultural Resources; Transportation; Air Quality; Noise; Public Services; Public Utilities; and Energy and Sustainability.

This EIR identifies one significant unavoidable project-level impact related to short-term construction noise. The EIR also identifies potentially significant impacts related to all the topics except land use and planning. Mitigation measures are proposed that would reduce these potentially significant impacts to less-than-significant levels.

Prior to approval of the project and after certification of the Final EIR, written findings regarding each of the identified environmental impacts must be prepared. Also, a monitoring program for each mitigation measure must be adopted. This monitoring program will be prepared as part of the Final EIR for this project but does not need to be formally adopted until the preparation of

[1] The NOP mailing list is available at the office of Swinerton Management & Consulting, Building MS-3 on the Kentfield campus.

findings after certification of the Final EIR. For significant unavoidable impacts, a statement of overriding considerations must be prepared to address how economic, social, legal, technological or other benefits of the project outweigh the significant, unavoidable impacts that have been identified. This statement accompanies the findings prior to project approval.

ALTERNATIVES TO THE PROJECT

Three alternatives to the proposed project are evaluated in Chapter 5, Alternatives:

- Alternative 1: No Project
- Alternative 2: Relocate New Main Building Complex to South Side of Ignacio Creek
- Alternative 3: No New Main Building Complex

The environmental impacts of each alternative are compared. The ability of each alternative to meet project objectives is also evaluated. None of the alternatives would meet the objectives identified for the project but the "Environmentally Superior" alternative (in addition to the No Project Alternative) would be Alternative 3, No New Main Building Complex.

SUMMARY TABLE

Table 2-1 summarizes project impacts and mitigation measures. The table identifies the level of impact both before and after mitigation.

Table 2-1 Summary of Impacts and Mitigation Measure

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
Land Use and Planning			
Implementation of the project would not result in potentially significant land use impacts or require land use-related mitigation measures.			
Geology, Soils and Seismicity			
GEOLOGY-1: Strong shaking associated with an earthquake could damage existing and proposed structures at the Indian Valley campus.	PS	GEOLOGY-1a: The District shall complete a design-level Geotechnical Investigation Report prepared by a Registered Geotechnical Engineer and Structural Design Plans as prepared by a Registered Structural Engineer for all new campus construction. Proper foundation and structural engineering and construction shall be performed in accordance with the recommendations of a Registered Geotechnical Engineer and a Registered Structural Engineer.	LTS
		GEOLOGY-1b: All new buildings and structures shall comply with the California Building Code and Uniform Building Code and compliance shall be verified by the California Division of the State Architect (DSA) in the review of building plans. Incorporation of seismic construction standards would reduce the potential for catastrophic effects of ground shaking such as complete structural failure to an acceptable standard, but would not entirely eliminate the hazard of seismically induced ground shaking. Implementation of the above measures would reduce impacts from strong seismic ground shaking to a less-than-significant level.	
GEOLOGY-2: Soil erosion or the loss of topsoil could occur during construction, particularly during storms.	PS	GEOLOGY-2: The District shall prepare an Erosion Control and Storm Water Pollution Prevention Plan prior to the onset of demolition, site grading, or construction. Please see Section 4.4, Hydrology and Water Quality, for impacts and mitigation measures for construction-related storm runoff. With implementation of the standard control measures therein, impacts from substantial soil erosion or the loss of topsoil would be reduced to less-than-significant levels.	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
GEOLOGY-3: Expansive soils could affect foundations and other building elements associated with adoption of the Bond Spending Implementation Plan.	PS	GEOLOGY-3: The District shall design and construct all new structures in accordance with geotechnical investigation recommendations (see Mitigation Measure GEOLOGY-1a), including recommended mitigation measures for expansive clay soils. Potential measures for control of expansive clay soils include the following: (1) Use of deeper foundations than normal. (2) Use of non-expansive layer under floor slabs and pavements. (3) Treating site soils with lime to reduce the expansion potential and increase the strength. (4) Additional reinforcing for slabs and walkways. (5) Grading around structures to assure positive drainage away from structures. The District's compliance with the above mitigation measure would reduce the impact of potentially expansive soils to a less-than-significant level.	LTS
Biological Resources			
BIOLOGY-1: Adoption and implementation of the proposed Bond Spending Implementation Plan could affect a number of special-status animal species.	PS	BIOLOGY-1a: Prior to any in-channel construction activities in Ignacio Creek and the main tributary drainages, a pre-construction survey shall be conducted by a qualified biologist to confirm absence of any northwestern pond turtle, foothill yellow-legged frog, California red-legged frog, or steelhead within the construction zone. Details of the pre-construction and avoidance measures shall consist of the following: (1) A pre-construction survey shall be conducted no more than 15 days prior to initiation of construction within the creek channel. (2) Before any in-channel construction activities begin, a qualified biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include (a) handout of a brochure with a description and photographs of the species of concern and their remote potential for their occurrence in the creek corridor, (b) the general measures that are being implemented to ensure avoidance as they relate to the project, and (c)	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
BIOLOGY-1 *continued*		procedures to follow if construction personnel believe they have encountered one or more of these species, such that all work shall stop in the vicinity and the qualified biologist immediately contacted to verify the species and recommend appropriate actions before construction resumes. (3) All fueling and maintenance of vehicles and other equipment, and staging areas, shall be located at least 50 feet from the creek channel to prevent any water quality degradation. All workers shall be informed of the importance of preventing spills and the appropriate measures to take should a spill occur. These issues shall be addressed in contract specifications. (4) If any species of concern are encountered, either during the pre-construction survey or during construction, construction work shall stop and a Species Avoidance Program shall be prepared by a qualified biologist through consultation with trustee agencies. Appropriate construction restrictions shall be established based on recommendations of the qualified biologist to ensure that no inadvertent take occurs while the Species Avoidance Program is being prepared. If northwestern pond turtles or foothill yellow legged frog are encountered, the qualified biologist shall informally consult with the California Department of Fish and Game (CDFG). If California red-legged frog are encountered, the U.S. Fish and Wildlife Service (USFWS) shall be consulted on the appropriate methods to ensure avoidance of inadvertent take of this listed species. If steelhead are encountered, the National Marine Fisheries Service (NMFS) shall be consulted on the appropriate methods to insure avoidance of inadvertent take of this listed species. (5) If required, the Species Avoidance Program shall define measures that serve to adequately avoid inadvertent loss of the species of concern during all aspects of project construction, including vegetation removal, any channel dewatering, and installation of proposed improvements. Monitoring shall be provided by the qualified biologist as necessary to ensure no inadvertent take occurs during construction. The qualified biologist shall be authorized to modify construction practices and to require additional avoidance and protective measures necessary to prevent loss of individual turtles or frogs.	

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
BIOLOGY-1 *continued*		(6) If any species of concern are encountered, a draft of the Species Avoidance Program shall be submitted to the Marin Community College District Director of Modernization for review and approval prior to any in-channel disturbance. If California red-legged frog and/or steelhead are encountered during the pre-construction survey, evidence of incidental take authorization from trustee agencies shall be provided as part of the required Species Avoidance Program. (7) Final reports summarizing the results of the pre-construction survey and, if required, the Species Avoidance Program, shall be submitted to the Marin Community College District Director of Modernization.	
		BIOLOGY-1b: Construction restrictions shall be implemented for activities within Ignacio Creek and main tributary drainage channel to avoid possible inadvertent take of steelhead, although the potential for occurrence of this species is highly unlikely and is in part dependent on removal of downstream barriers that preclude movement onto the Indian Valley campus. Restrictions shall consist of the following: (1) Any in-channel construction activities shall be restricted to the period when stray or dispersing anadramous fish would not be expected within the Ignacio Creek channel (i.e., from June 15 through October 15). (2) Adequate measures shall be taken to minimize disturbance and sedimentation, temporarily contain flow of any surface water across the construction zone, and ensure that no listed fish species are trapped within the construction zone prior to commencement of dewatering or other in-channel disturbance.	
		BIOLOGY-1c: Any active raptor or loggerhead shrike nests in the vicinity of proposed grading and new construction shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. This measure shall not apply to ongoing maintenance and building repair, to which raptors are already acclimated. Avoidance may be accomplished either by scheduling grading and vegetation removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction survey for active nests. A pre-construction survey report verifying that no active	

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
BIOLOGY-1 *continued*		nests are present shall be submitted to the Marin Community College District Director of Modernization for review and approval prior to initiation of grading or construction during the nesting season, or verifying that nesting has been completed as detailed below. Provisions of the pre-construction survey and nest avoidance measures, if necessary, shall include the following: (1) If grading and new construction are scheduled during the active nesting period (March through August), a qualified wildlife biologist shall be retained by the District to conduct a pre-construction nesting survey no more than 15 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity. (2) If active nests are encountered, species-specific measures shall be prepared by a qualified biologist through informal consultation with the CDFG and implemented to prevent nest abandonment. At a minimum, grading and new construction in the vicinity of the nest shall be deferred until the young birds have fledged. A nest-setback zone of at least 300 feet shall be established for raptors and 100 feet for loggerhead shrike and passerine birds within which all construction-related disturbances shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area. (3) If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies either a) that the birds have not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date than usual. (4) A survey report of findings verifying that any young have fledged shall be submitted for review and approval by the Marin Community College District Director of Modernization prior to initiation of grading or new construction in the nest-setback zone. Following approval by the Director of Modernization, grading and construction in the nest-setback zone may proceed as proposed. The combination of the above measures, as needed, would reduce this impact to a less-than-significant level.	

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
BIOLOGY-2: Construction activities in or near Ignacio Creek and tributary drainages could adversely affect regulated waters and contribute to water quality degradation.	PS	BIOLOGY-2: Disturbance to jurisdictional wetlands and waters shall be avoided and minimized to the extent feasible, with the exception of the stabilization and restoration efforts to Ignacio Creek and the main tributary drainage. Appropriate authorizations shall be obtained from the U.S. Army Corps of Engineers, Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG) where avoidance is determined to be infeasible, and required conditions implemented to protect and mitigate any adverse impacts on existing habitat and water quality. Where required by jurisdictional agencies, a detailed mitigation plan shall be prepared by a qualified wetland consultant for any wetlands or waters affected by proposed improvements, with replacement provided at a minimum 1:1 ratio. The plan shall clearly identify the total jurisdictional areas affected by proposed improvements, as well as habitat to be created, restored, or enhanced as part of the required mitigation. Any replacement mitigation shall be consolidated to the degree possible to improve existing habitat values. The plan shall specify performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be conducted by the consulting wetland specialist until the success criteria are met.	LTS
Hydrology and Water Quality			
HYDROLOGY-1: Construction under the Bond Spending Implementation Plan could cause soil erosion, sedimentation, and other effects on water quality.	PS	HYDROLOGY-1a: The District shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) prior to the onset of site grading or construction. (1) The Erosion Control Plan shall include erosion control/soil stabilization techniques such as straw mulching, erosion control blankets, erosion control matting, and hydro-seeding. Silt fences used in combination with fiber rolls shall be installed downslope of all graded slopes. Fiber rolls shall be installed in the flow path of graded areas receiving concentrated flows and silt fences and other proven sediment retention structures shall be placed around all soil stockpiles. The construction entrances shall be stabilized to prevent tracking of dirt onto roads next to the site through the use of a gravel base, erosion control blankets, or other approved elements.	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
HYDROLOGY-1 *continued*		(2) After construction is completed, all drainage facilities shall be inspected for accumulated sediment, and these drainage structures shall be cleared of debris and sediment. Long-term mitigation measures to be included in the project SWPPP shall include, but not be limited to, the following: (3) Description of potential sources of erosion and sediment at the project site, and any hazardous or potentially hazardous materials and chemicals. This description shall include a thorough assessment of existing and potential pollutant sources. (4) Development of a monitoring and implementation plan. Maintenance requirements and frequency, including vector control, clearing of clogged or obstructed inlet or outlet structures, and vegetation/landscape maintenance, shall be carefully described. (5) The SWPPP shall be adjusted, as necessary, to address any inadequacies of the best management practices (BMPs).	
		HYDROLOGY-1b: The District shall implement "best management practices" (BMPs) for preventing the discharge of other construction-related NPDES pollutants beside sediment (i.e., paint, concrete, etc.) to downstream waters, including the following measure: (1) Parking lots and other paved areas shall be swept regularly to eliminate the majority of litter and debris washing into storm drains and thus entering local waterways. The combination of the above measures would reduce this impact to a less-than-significant level.	

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
HYDROLOGY-2: Runoff from the Indian Valley campus could increase non-point source pollution in receiving waters such as San Francisco Bay.	PS	HYDROLOGY-2a: The District shall design the proposed bio-retention basin to improve water quality by allowing sediments and particulates to settle prior to discharging to downstream waterways. By retaining runoff, the bio-retention ponds shall allow for some pollutant removal through infiltration and vegetative uptake. Many pollutants in stormwater, including lead, copper, zinc, phosphorus, and hydrocarbons, are associated with sediment and fine particulates. Thus, the ability of a stormwater practice to remove many nutrients, trace metals, and hydrocarbons is largely related to its ability to remove suspended sediment and particulates. The basin shall serve the purposes of both peak storm runoff detention and water quality control. The basin shall discharge to a storm drain pipe that outfalls to Ignacio Creek south of Parking Lot 1. In order to optimize both the stormwater detention and water quality control aspects, the following steps shall be taken: (1) The basin shall be designed to drain slowly over 24 hours. (2) The basin shall include a coarse pollutant basin, or forebay, just above the storage basin to remove coarse materials as they enter the storage basin. The coarse pollutant basin shall be deep enough to detain average seasonal flows for about five minutes and prevent the resuspension of deposited sediments. (3) The coarse pollutant basin and the storage basin shall be lined with hardy wetland vegetation and grass, respectively. (4) The basin shall be designed with an emergency spillway for 50-year storm events. (5) Excess sediment decreases basin efficiency and must be removed to ensure basin features function as designed. Two staff gauges shall be placed in appropriate areas of the dry detention pond to monitor sediment accumulation. The staff gauges shall track the rate of sedimentation and identify the need for sediment removal.	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
HYDROLOGY-2 *continued*		(6) Sediment shall be removed when an average of 1.5 feet of sediment has accumulated in the basin. (7) Sediment shall be removed by mechanical means such as a small excavator or loader. Care should be taken to ensure that the basin is restored to the proper invert elevations. (8) It may be necessary to re-seed both the coarse pollutant basin and the storage basin after maintenance. Initially during construction, sediment input into the basin would be high. The basin would likely need to be cleaned within 1 to 2 years after project completion. Adequate access for basin maintenance shall be provided.	
		HYDROLOGY-2b: A maintenance and operations plan shall be developed by the District as part of the overall design of the bio-retention basin. The basin shall receive periodical maintenance including desilting, vegetation clearing, and trash and debris removal.	
		HYDROLOGY-2c: The District shall ensure that the bio-retention basin shall be designed per the latest edition of the California Municipal BMP Manual or other standards approved by the State Water Resources Control Board (SWRCB) prior to construction.	
		HYDROLOGY-2d: The District shall incorporate, where feasible within design constraints, grassed swales (bioswales) into the project drainage system for runoff conveyance and filtering of pollutants. Rather than have concrete drainage swales to transport the runoff to roadside ditches, these swales shall be lined with grass or appropriate vegetation to encourage the biofiltration of sediment, phosphorus, trace metals, and petroleum from runoff prior to discharge into the formal drainage network. General design guidelines relevant to optimizing the pollutant removal mechanisms of grassed swales are (1) a dense, uniform growth of fine-stemmed herbaceous plants for optimal filtering of pollutants; (2) vegetation that is tolerant to the water, climatological, and soil conditions of the project site is preferred; (3) grassed swales that maximize water contact with the vegetation and soil surface	

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
HYDROLOGY-2 *continued*		have the potential to substantially improve removal rates, particularly of soluble pollutants; and (4) pollutant removal efficiency is increased as the flow path length is increased. Grassed/vegetated swales treat concentrated flow and must be sized wide enough to maintain low-flow velocities and maximize surface area. A minimum of 1,200 square feet of swale per impermeable acre is recommended. Entrances to swales shall be equipped with flow spreaders to dissipate energy and avoid erosion and have a maximum longitudinal slope of 5 percent.	
		HYDROLOGY-2e: The District shall develop a long-term maintenance plan for the bioswale to include the following: (1) regular mowing to promote growth and increase density and pollutant uptake (vegetative height should be no more than 8 inches, cuttings must be promptly removed and properly disposed of); (2) removal of sediments during summer months when they build up to 6 inches at any spot, cover bioswale vegetation, or otherwise interfere with bioswale operation; and (3) reseeding of bioswale as necessary, whenever maintenance or natural processes create bare spots. The combination of these mitigation measures would reduce the impact to a less-than-significant level.	
HYDROLOGY-3: Alteration of the existing drainage pattern at the Indian Valley campus could result in increased erosion on and off the site.	PS	HYDROLOGY-3a: Where possible, the District shall use biotechnical bank stabilization techniques as erosion protection within Ignacio Creek (Questa Engineering, 2006). Biotechnical erosion control techniques include planted rock rip rap, large woody debris, coir fiber logs, willow staking, soil reinforcement products, and other pre-approved erosion protection materials. The use of concrete reinforcement should be minimized to the greatest extent possible and only used to protect infrastructure.	LTS
		HYDROLOGY-3b: The District shall ensure that all stormwater drainage shall be released in such a manner as to prevent erosion within Ignacio Creek by using existing outfalls and dissipators. The combination of these mitigation measures would reduce the impact to a less-than-significant level.	

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
Hazardous Materials			
HAZARDS-1: The routine transportation, use or disposal of hazardous materials associated with the adoption of the Bond Spending Implementation Plan could result in hazardous conditions.	PS	HAZARDS-1a: The District shall develop a Demolition and Disposal Plan to reduce hazards related to the demolition, staging, and removal of construction-related and hazardous materials, including building remodeling waste materials. The plan shall include measures for handling the spill of liquids such as fuels or hydraulic fluids as well as abatement of hazardous materials and airborne dust. This plan shall be submitted to the California Division of the State Architect (DSA) for approval prior to any demolition.	LTS
		HAZARDS-1b: The Demolition and Disposal Plan for safe renovation of existing structures shall include asbestos dust control and shall incorporate site surveys for the presence of potentially hazardous building materials. The plan shall address both on-site worker protection and off-site resident protection from both chemical and physical hazards.	
		HAZARDS-1c: All contaminated building materials shall be tested for contaminant concentrations and shall be disposed of at appropriate licensed landfill facilities. Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations must be followed for demolition of facilities with minimum quantities listed by the NESHAP of regulated asbestos-containing materials. All demolitions must include notification of the appropriate regulatory agency, even if no asbestos is present at the site, and all demolitions and renovations are "subject" to the Asbestos NESHAP insofar as owners and operators must determine if and how much asbestos is present at the site (EPA, 2006). Prior to obtaining a demolition permit from the Bay Area Air Quality Management District (BAAQMD), an asbestos demolition survey shall be conducted in accordance with the requirements of BAAQMD Regulation 11, Rule 2.	
		HAZARDS-1d: Prior to building demolition, hazardous building materials such as peeling, chipping and friable lead-based paint and asbestos-containing building materials shall be removed in accordance with all applicable guidelines, laws, and ordinances. The plan shall include a program of air monitoring for dust particulates and attached contaminants. Dust control and suspension of work during dry windy days shall be addressed in the plan.	

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
HAZARDS-1 *continued*		HAZARDS-1e: For the impact of flaking and peeling lead-based paint, the requirements of Title 8, California Code of Regulations, Section 1532.1 (T8 CCR 1532.1) shall be followed. These requirements include but are not limited to the following: (1) Loose and peeling lead-containing paint shall be removed prior to building demolition. Workers conducting removal of lead paint must receive training in accordance with T8 CCR 1532.1. (2) The lead paint removal project shall be designed by a California Department of Health Services (DHS)-certified lead project designer, project monitor or supervisor. (3) The District shall prepare a written Lead Compliance Plan that meets the requirements of the lead construction standard by any contractor that affects lead coatings. (4) Workers who may be exposed above the "Action Level" must have blood lead levels tested prior to commencement of lead work and at least quarterly thereafter for the duration of the project. Workers who are terminated from the project shall have their blood lead levels tested within 24 hours of termination. (5) A written exposure assessment must be prepared in accordance with T8 CCR 1532.1. (6) Any amount of lead waste generated, including painted building components, shall be characterized for proper disposal in accordance with Title 22, Section 66261.24.	
		HAZARDS-1f: The District shall apply all Existing Facilities Assessment Hazardous Material Report recommendations for asbestos-containing materials, lead-containing materials, and other hazardous materials. Building-specific recommendations shall be followed prior to demolition, during construction, and during future facility operations. These recommendations include: (1) Label unidentified hazardous waste. (2) Store hazardous materials in code-compliant cabinets. (3) Maintain quantities within limits of fire codes.	

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
HAZARDS-1 *continued*		(4) Update the Hazardous Materials Report on a regular basis to reflect the actual chemical inventories. (5) For laboratory sinks, evaluate permitting and requirements by Publicly Owned Treatment Works for acid waste line discharge and pre-treatment, such as dilution tanks. (6) Test fume ventilation hoods and exhaust systems annually. (7) Create "chain of responsibility" for hazardous materials/wastes. (8) Provide complete set of Materials Safety Data Sheets (MSDS) where materials are stored and used. (9) Inventory and remove fixtures and structural elements that may contain hazardous materials prior to renovation or demolition. (10) Obtain regulatory agency underground storage tank (UST) closure, if necessary.	
		HAZARDS-1g: The District's Hazardous Materials Business Plan (HMBP) shall be updated for the safe storage and use of all hazardous chemicals. The HMBP shall include the type and quantity of hazardous materials, a site map showing where hazardous materials are stored and where they may be used and transported from, risks of using these materials, material safety data sheets for each material, a spill prevention plan, an emergency response plan, employee training consistent with Occupational Safety and Health Administration (OSHA) guidelines, and emergency contact information. The District qualifies for the program if it stores a hazardous material equal to or greater than the minimum reportable quantities. These quantities are 55 gallons for liquids, 500 pounds for solids and 200 cubic feet (at standard temperature and pressure) for compressed gases. Some exemptions apply. The HMBP shall be submitted prior to the start of operation of the new facilities, and must be entirely reviewed and updated at least once every three years, or within 30 days of any significant change. Some of these changes are new emergency contact information, major increases or decreases in hazardous	

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
HAZARDS-1 *continued*		materials storage, and/or changes in location of hazardous materials. Plans shall be submitted to the County of Marin Certified Unified Programs Agency (CUPA), managed by the Marin County Department of Public Works Waste Management Division. The Marin County Department of Public Works Waste Management Division may inspect the College at least once a year to make sure that the HMBP is complete and accurate.	
		HAZARDS-1h: Building spaces shall be designed to handle the intended use, with sprinklers, alarms, vents, and secondary containment structures, where applicable. These systems must pass plan review through the Division of the State Architect.	
		HAZARDS-1i: During construction, the utilities (including sprinkler systems) shall pass pressure and flush tests to make sure they perform as designed. At the end of construction, occupancy shall not be allowed until a final inspection is made by the Novato Fire Protection District for conformance of all building systems with the Fire Code and National Fire Protection Agency Requirements. The inspection shall include testing of sprinklers systems, alarm systems, ventilation and airflow systems, and secondary containment systems. The inspection shall include a review of the emergency evacuation plans. These plans shall be modified as deemed necessary.	
		HAZARDS-1j: All transportation of hazardous materials and hazardous waste to and from the site shall be in accordance with Title 49 of the Code of Federal Regulations, US Department of Transportation (DOT), State of California Department of Transportation (Caltrans), and local laws, ordinances and procedures including placards, signs, and other identifying information. Implementation of the above mitigation measures would reduce the impact of routine transportation, use, or disposal of hazardous materials to a less-than-significant level.	

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
HAZARDS-2: An accidental hazardous materials release could occur on the Indian Valley campus with current campus operations. While the Bond Spending Implementation Plan would reduce the risk of accidental hazardous materials releases by providing for renovations and life safety and general code upgrades to the Transportation Technology Complex in Pomo 1 and 2, the potential remains for such a release.	PS	HAZARDS 2a: The District shall check the State and federal lists of regulated substances for chemicals that pose a major threat to public health and safety or the environment because they are highly toxic, flammable, or explosive. This list is available from the Marin County Department of Public Works Waste Management Division. Should the campus qualify for the California Accidental Release Program (CalARP), as determined in consultation with Marin County Department of Public Works Waste Management Division, the District shall complete a CalARP registration form and submit it to the Environmental Health Department. Following registration, the District shall submit a Risk Management Plan (RMP). RMPs are designed to handle accidental releases and ensure that businesses have the proper information to provide to emergency response teams if an accidental release occurs. The storage or handling of more than a threshold quantity (TQ) of a regulated substance requires the development and implementation of a Risk Management Plan. RMPs describe impacts to public health and the environment if a regulated substance is released near schools, residential areas, hospitals, and child care facilities. RMPs must include procedures for keeping employees and customers safe, handling regulated substances, training staff, maintaining equipment, storing materials safely, and responding to an accidental release.	LTS
		HAZARDS-2b: Employee training shall include spill prevention, clean-up, and notification procedures in accordance with the Occupational Health and Safety Administration (OSHA) and the State level CAL-OSHA. This includes having sufficient clean-up materials such as spill kits, absorbent rags, and sand available to staff for containing and cleaning up spills and leaks, as well as procedures for proper disposal of contaminated materials. Implementation of the combination of these mitigation measures would reduce the impact of accidental releases of hazardous materials to a less-than-significant level.	

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
Cultural Resources			
CULTURAL-1: Ground-disturbing activities associated with the proposed project have the potential to affect prehistoric archaeological deposits that have been identified on the Indian Valley campus.	PS	CULTURAL-1: Once specific development plans are finalized a qualified archaeologist shall review such plans and prepare a Treatment Plan (Plan) that provides specific treatments for areas where ground disturbance would occur on campus. The Plan shall take into account locations where archaeological deposits have been identified on campus relative to where ground-disturbing activities would occur. The Plan shall outline the appropriate courses of action, which may include, but are not necessarily limited to, preconstruction archaeological testing—necessary to determine the presence/absence of archaeological deposits and to evaluate whether such deposits qualify as historical or unique archaeological resources—and monitoring of ground-disturbing activities. The Plan shall identify the appropriate courses of action should archaeological deposits be identified during preconstruction archaeological testing or during project implementation. Archaeological deposits identified during preconstruction archaeological testing or project implementation shall be evaluated to determine if they qualify as historical resources or unique archaeological resources as defined in CEQA. If archaeological deposits are determined to be historical resources or unique archaeological resources, and adverse effects on such resources are anticipated, mitigation of project impacts on the resource shall occur. Mitigation may include, but is not limited to, thorough recording on Department of Parks and Recreation form 523 records (DPR 523), data recovery excavation, and public outreach. If preconstruction archaeological testing is to occur at or within the immediate vicinity of a prehistoric archaeological site, a qualified cultural resources consultant approved by the Federated Indians of Graton Rancheria shall be retained to monitor the excavations to ensure Native American artifacts, skeletal remains, and cremated remains are treated appropriately and that appropriate regulatory procedures for the treatment of human remains are followed.	LTS

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
CULTURAL-2: Ground-disturbing activities associated with the proposed project have the potential to affect previously unidentified historic and prehistoric archaeological deposits on the Indian Valley campus.	PS	CULTURAL-2: If historic or prehistoric archaeological deposits are encountered during preconstruction testing (in areas identified by the Treatment Plan—see Mitigation Measure CULTURAL-1), a qualified archaeologist shall evaluate such deposits to determine if they qualify as historical or unique archaeological resources as defined in CEQA Sections 21084.1 and 21083.2(g). If such deposits qualify as neither an historical nor a unique archaeological resource (i.e., they are not significant), no further protection of the deposits is necessary. If the deposits are determined to be significant, project effects on such deposits shall be avoided or impacts must be mitigated. Mitigation may include, but is not limited to, thorough recording on Department of Parks and Recreation form 523 records (DPR 523), data recovery excavation, and public outreach. If archaeological deposits are encountered during project implementation, all work within 25 feet of the discovery shall be redirected and a qualified archaeologist contacted (if an archaeological monitor is not present) to assess the finds and make recommendations. Project personnel shall not collect or move any archaeological materials. It is recommended that adverse effects on such deposits be avoided by project activities. If such deposits cannot be avoided, they shall be evaluated to determine if they qualify as historical or unique archaeological resources. If the deposits are not significant, avoidance is not necessary. If the deposits are significant, they shall be avoided or adverse effects must be mitigated. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results, and provide recommendations for the treatment of the archaeological materials discovered. The report shall be submitted to the Director of Modernization and the Northwest Information Center.	LTS

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
CULTURAL-3: Ground-disturbing activities associated with the proposed project have the potential to affect human remains on the Indian Valley campus.	PS	CULTURAL-3: If human remains are encountered during project implementation or preconstruction archaeological testing, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted (if an archaeologist is not on-site) to assess the situation. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission shall identify a Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results, and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report shall be submitted to the Director of Modernization and the Northwest Information Center.	LTS
Transportation			
TRANSPORTATION-1: Ongoing campus construction would affect vehicle, bicycle, and pedestrian circulation within the Indian Valley campus and may create unsafe conditions.	PS	TRANSPORTATION-1: The District shall develop a Construction Management Plan prior to commencement of any construction activities. The Construction Management Plan shall include: (a) Location of construction staging and a description of the level and type of construction-related traffic; (b) Recommendations for comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak hours; lane closure procedures; signs, cones, and other warning devices for drivers; and designation of construction access routes; (c) Description of the maximum number of construction employees during any single phase of project construction, and a forecast of the number of AM and PM peak hour trips to be generated by those employees; (d) Provision of dedicated parking for all construction employees, site visitors, and inspectors;	LTS

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
TRANSPORTATION-1 *continued*		(e) Provisions to remove construction-related debris; and (f) Designation of pedestrian and bicycle facilities around the construction and staging areas. The combination of the above elements in a Construction Management Plan would reduce this impact to a less-than-significant level.	
TRANSPORTATION-2: Potential conflicts between bus circulation and vehicle access to parking spaces may result from the proposed routing of buses to serve the main campus and the new Main Building Complex.	PS	TRANSPORTATION-2: The project shall provide a bus circulation route that would not force buses to use parking aisles to reach the proposed new campus bus stop unless such a route is approved by the Marin County Transit District and Golden Gate Transit District. The Marin Community College District shall coordinate with the Marin County Transit District and Golden Gate Transit to develop an acceptable route and bus stop location prior to construction of the new Main Building Complex.	LTS
TRANSPORTATION-3: Bicycle circulation routes and bicycle parking locations within the Indian Valley campus are not yet defined as part of the project, and thus conflicts with policies to encourage alternative transportation could result.	PS	TRANSPORTATION-3: The District shall adopt a campus bicycle plan for the Indian Valley campus that shows existing and planned bicycle paths, lanes, and routes; and the recommended location of bicycle parking and shower facilities. Bicycle parking shall be placed in visible locations adjacent to buildings (to reduce the likelihood of theft). The District may want to restrict bicycle use within the inner campus area. This plan shall be adopted prior to completion of the new Main Building Complex.	LTS
TRANSPORTATION-4: Increased motor vehicle traffic generated by the project would contribute to an increase in energy consumption, air pollutants, and vehicle trips in Marin County and could conflict with County policies aimed at supporting alternative transportation and reduced private vehicular use.	LTS	TRANSPORTATION-4: The District shall develop and implement a Transportation Demand Management (TDM) program. The TDM program should include some or all of the following provisions: (a) Establish a transportation kiosk or office on campus to distribute information on traveling to and from campus via multiple travel modes, with an emphasis on alternatives to automobile trips. (b) Collaborate with the Marin County Transit District and Golden Gate Transit to investigate the provision of subsidized or reduced-cost transit passes for students, faculty, and staff.	LTS

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
TRANSPORTATION-4 *continued*		(c) Continue to offer internet courses to reduce the need to drive to and from campus. (d) Explore options for vanpool or shuttle bus service between the Kentfield and Indian Valley campuses. (e) Encourage carpooling by providing preferential parking and reduced parking fees for carpoolers. (f) Explore options for encouraging use of neighborhood electric vehicles (NEV) and other low-emission options (including shuttles and/or van-pools), including on-campus maintenance vehicles. (g) Provide one or more "bicycle stations" on campus, to include shower and locker facilities.	
Air Quality			
AIR-1: Construction activities such as clearing, excavation and grading operations, construction vehicle traffic, and wind blowing over exposed earth would generate fugitive particulate matter emissions that would temporarily affect local air quality and possibly affect nearby sensitive receptors.	PS	AIR-1a: Consistent with guidance from the Bay Area Air Quality Management District (BAAQMD), the following measures shall be required of construction contracts and specifications: (1) Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non-toxic stabilizers or dust palliatives. (2) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard. (3) Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites. (4) Sweep daily (preferably with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff-related impacts on water quality. (5) Sweep streets daily (preferably with water sweepers) if visible soil material is carried onto adjacent public streets.	LTS

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
AIR-1 *continued*		AIR-1b: All neighboring properties located within 500 feet of a construction site boundary shall be provided with the name and phone number of a designated construction dust control coordinator who can respond to complaints by suspending dust-producing activities or providing additional personnel or equipment for dust control. Residents shall also be provided with the phone number of the BAAQMD. The dust control coordinator shall be available during all times when demolition, grading, or excavation is occurring and shall maintain a log of complaints. The above measures include all feasible measures for construction emissions identified by the BAAQMD for large sites near sensitive receptors and additional measures beyond those recommended by the BAAQMD. According to the BAAQMD threshold of significance for construction impacts, implementation of the combination of the above measures would reduce construction impacts of the project to a less-than-significant level.	
AIR-2: During construction, various diesel-powered vehicles and equipment would be in use. Exposure of sensitive receptors to diesel particulate would represent a potentially significant impact.	PS	AIR-2: The following measures shall be required of construction contracts and specifications for construction of the geothermal field: (a) Minimize idling time for diesel equipment and diesel trucks (5 minutes maximum). (b) Maintain properly tuned equipment. (c) Use on-road trucks and non-road diesel-powered equipment that are certified as meeting EPA/CARB Tier 2 standards. Such equipment is the cleanest currently available. The above measure would ensure that health risks due to diesel particulate construction impacts of the project would be reduced to a less-than-significant level.	LTS

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
Noise			
NOISE-1: Demolition and construction activities would occur over a period of about six years and would generate high noise levels at noise-sensitive uses when construction is located adjacent to these uses.	PS	NOISE-1: Construction equipment shall be well-maintained and used judiciously to be as quiet as practical. Contract specifications shall incorporate the following measures, as appropriate: (a) Limit demolition and construction activities to daytime hours between 7:00 AM and 5:00 PM. (b) To the extent feasible, route construction truck traffic directly to campus construction sites via Ignacio Boulevard. (c) Use "quiet" models of air compressors and other stationary noise sources where technology exists. (d) Equip all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment. (e) Locate all staging areas and stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from residences or noise-sensitive campus areas and buildings. (f) Prohibit all unnecessary idling of internal combustion engines. (g) Notify all adjacent residents and campus staff and students of the construction schedule in writing or by posting signs. (h) Erect a temporary noise control blanket barrier on the geothermal drill rig on the side facing adjacent residences or noise-sensitive campus areas or buildings. Noise control blanket barriers can be rented or purchased and quickly erected. (i) Designate the Campus Construction Manager as the campus noise disturbance coordinator, responsible for responding to complaints about construction noise. The name and telephone number of the Campus Construction Manager shall be posted at the construction site and made available to adjacent residents prior to the onset of construction. (j) Provide a written schedule of "noisy" construction activities (e.g., geothermal drilling) to nearby residents.	SU

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
NOISE-1 *continued*		(k) Prohibit construction worker radios from being audible beyond the limits of the construction site. The combination of the above measures would reduce construction noise but not to a less-than-significant level. This impact would remain significant and unavoidable during the construction phase.	
Public Services			
SERVICES-1: The project would increase the number of students and the amount of building area on the Indian Valley campus, thereby increasing exposure of people and structures to wildland fire hazards.	PS	SERVICES-1: The Marin Community College District shall: (a) Comply with applicable laws and regulations, including Urban-Wildland Interface Code of the Novato Fire Protection District, 2005-1 (2005). This includes maintenance of defensible space between structures and other measures as directed by the Novato Fire Protection District. (b) Coordinate plans for adding a fire alarm/monitoring system with the Novato Fire Protection District. (c) Work with the Novato Fire Protection District and/or the State Architect to ensure that all new building construction meets current code requirements. The combination of the above measures would reduce the impact to a less-than-significant level.	LTS
SERVICES-2: Depending on final site and building designs, the Bond Spending Implementation Plan could continue or worsen existing emergency access problems on the campus.	PS	SERVICES-2: The Marin Community College District shall coordinate final site and building plans with the Novato Fire Protection District and Marin Community College Police Department to ensure that long-term emergency access to structures and fire hydrants is adequate.	LTS
Public Utilities			
Implementation of the project would not result in potentially significant public utilities impacts or require public utilities--related mitigation measures.			

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Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
Energy and Sustainability			
ENERGY-1: Transportation energy demands would increase at the Indian Valley campus due to an increase in students in the coming years. Without options for alternative transit, students would continue to use private vehicles for campus access, resulting in increased fuel consumption and associated impacts related to use of fossil fuels, air quality degradation, and associated global warming.	PS	ENERGY-1: The District shall develop and implement a Transportation Demand Management (TDM) program as described in Mitigation Measure TRANSPORTATION-4. Refer to Mitigation Measure TRANSPORTATION-4 related to potential ways to reduce reliance on the private automobile for access to and from the campus.	LTS
ENERGY-2: Modernization of the Transportation Technology Complex, renovation of existing buildings, and construction of the new Main Building Complex at the Indian Valley campus would produce a significant amount of debris that has the potential to be recycled. Building renovation and new construction would also produce debris that could be recycled. Some waste materials, such as asbestos, may be hazardous.	PS	ENERGY-2a: Measures to increase recycling of construction and demolition material from implementation of the Bond Spending Implementation Plan shall include the following: (1) Preparation of a "Materials Management Plan" prior to the onset of building demolition, renovation, or new construction that identifies (a) types of materials to be recycled or reused, (b) contractor specifications, (c) required record-keeping), (d) storage areas for materials, (e) recycling goals by types of material, and (f) coordination with hazardous materials disposal requirements. The Materials Management Plan shall ensure that at least 50 percent of non-hazardous construction waste from building renovation and new construction is recycled, in accordance with the Bond Spending Implementation Plan Design Guidelines. (2) Inclusion of specific Materials and Resources LEED requirements in the specifications, including but not limited to the following as applicable to individual projects: Materials and Resources (MR) Prerequisite 1, Storage and Collection of Recyclables; Building Reuse MR credit 1.1 or 1.2; Recycled Content MR credit 4.1 or 4.2; and Certified Wood MR credit 7. (3) Record-keeping on the campus of amounts and types of waste sent to recyclers. (4) Documentation of "recyclable" materials from demolition and renovation that could possibly be incorporated into new buildings to reduce District costs. (5) Provision of a list of local recycling operators to contact for any construction and demolition debris. (6) Provision of adequate on-campus storage areas where recyclable materials can be separated and stored temporarily after demolition.	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

Table 2-1 *continued*

Impact	Level of Sig. Without Mitigation	Mitigation Measure	Level of Sig. After Mitigation
ENERGY-2 *continued*		ENERGY-2b: The District shall ensure that all contractors comply with federal, State, and local regulations related to disposal of hazardous material contained in construction and demolition debris. The combination of the above measures would reduce this potential impact to a less-than-significant level. The measures would also help the District meet LEED requirements for construction waste management, which include (1) developing and implementing a construction waste management plan, and (2) diverting 50 percent of construction and demolition wastes from landfills, or recycling or reusing 25 percent of these wastes on-site (U.S. Green Building Council, 2005b).	
ENERGY-3: Implementation of the Bond Spending Implementation Plan could result in the preclusion of the use of alternative energy systems such as rooftop solar collectors unless specific steps are taken at the design stage of new buildings to prevent shading by buildings or vegetation.	PS	ENERGY-3: The District shall consider ensuring that rooftop structural systems of new and renovated buildings are designed to allow future solar systems. New landscaping plans shall be reviewed prior to implementation to ensure that new trees would not block solar access to rooftops that could be used for solar systems.	LTS
ENERGY-4: New landscape improvements such as outdoor lighting would result in increased electrical energy demands that would make increased demands on non-renewable energy sources.	PS	ENERGY-4: The District shall incorporate the use of solar lighting for outdoor areas and pathways, assuming that adequate lumen levels to ensure safety can be provided by such systems, and, if required, the systems can be affordably integrated with existing lighting systems to remain.	LTS

PS = Potentially Significant; LTS = Less Than Significant; SU = Significant and Unavoidable

3. PROJECT DESCRIPTION

3.1 INTRODUCTION

The Marin Community College District Board of Trustees, hereinafter referred to as the Trustees, will serve as the lead agency for the California Environmental Quality Act (CEQA) document for the proposed Bond Spending Implementation Plan (hereinafter also referred to as the Implementation Plan) for the Indian Valley campus. The Implementation Plan is the outcome and the guiding document for the Measure C Bond Program that was passed by the Marin County voters in 2004. This bond program provided $249.5 million to be used for modernization and new construction at the District's three campuses. The three campuses are the Kentfield campus, the Indian Valley campus, and the Bolinas Marine Biology Laboratory facility.

The Implementation Plan is the outcome of the Measure C Bond Program passed by Marin County voters in 2004.

At this time, there are no planned changes for the Bolinas campus. Thus, the focus of the Implementation Plans is on renovations at the Kentfield and Indian Valley campuses. Two separate Environmental Impact Reports (EIRs) are being prepared—one for each campus, for two separate Implementation Plans. The Trustees will be responsible for certifying each EIR to ensure that the documents meet all the requirements of the California Environmental Quality Act. After the certification of the EIRs, the Implementation Plans can be approved. This EIR addresses the Implementation Plan for the Indian Valley campus.

The District has undergone a detailed planning process since 2005, beginning with assessments of all existing facilities on both the Kentfield and Indian Valley campuses. These assessments were intended to provide the District with a detailed evaluation of structural, life safety and other aspects of each structure on the campuses and provide recommendations for repair or replacement of specific building systems. The assessments were also used to make recommendations for complete building replacements based upon the extent of repairs required to bring structures up to current building code standards. A number of Community Forums were held at both campuses to solicit community input on changes that should occur on each campus. Site constraints were presented and the architectural firm of Steinberg Architects and the landscape firm of Royston Hanamoto Alley & Abey (RHAA) developed Implementation Plans that identified the proposed improvements to the two main campuses over time.

Since the development of the Bond Spending Implementation Plans, additional architectural firms have been retained to develop designs for the following individual buildings at the Indian Valley campus:

- Main Building Complex – new structure
- Transportation Technology Complex – renovated structures

Schematic designs for these buildings had been completed at the time of preparation of this EIR; therefore, this EIR serves as a "Project EIR" for these buildings. For the remaining provisions of the Implementation Plan (including the Ignacio Creek Management Plan, which is a component of the Implementation Plan), this EIR is a Program EIR, as defined in Section 15168 of the CEQA Guidelines. A Program EIR addresses a series of actions that are related and part of one large project. Thus, cumulative impacts can be addressed and program-wide mitigation measures can be recommended. If a later activity would have impacts that are not addressed in the Program EIR, additional environmental review may be needed at that time.

The action that the Trustees will take relevant to the subject of this EIR is the approval/adoption of the Bond Spending Implementation Plan for the Indian Valley campus, which can be reviewed at the Swinerton Management & Consulting Offices, Building MS-3, Kentfield Campus, 835 College Avenue, Kentfield, CA or on the College's website (http://www.marin.edu/MeasureC/public_notices/index.htm) with subheadings of "Measure C Updates" followed by "Public Notices & Announcements."

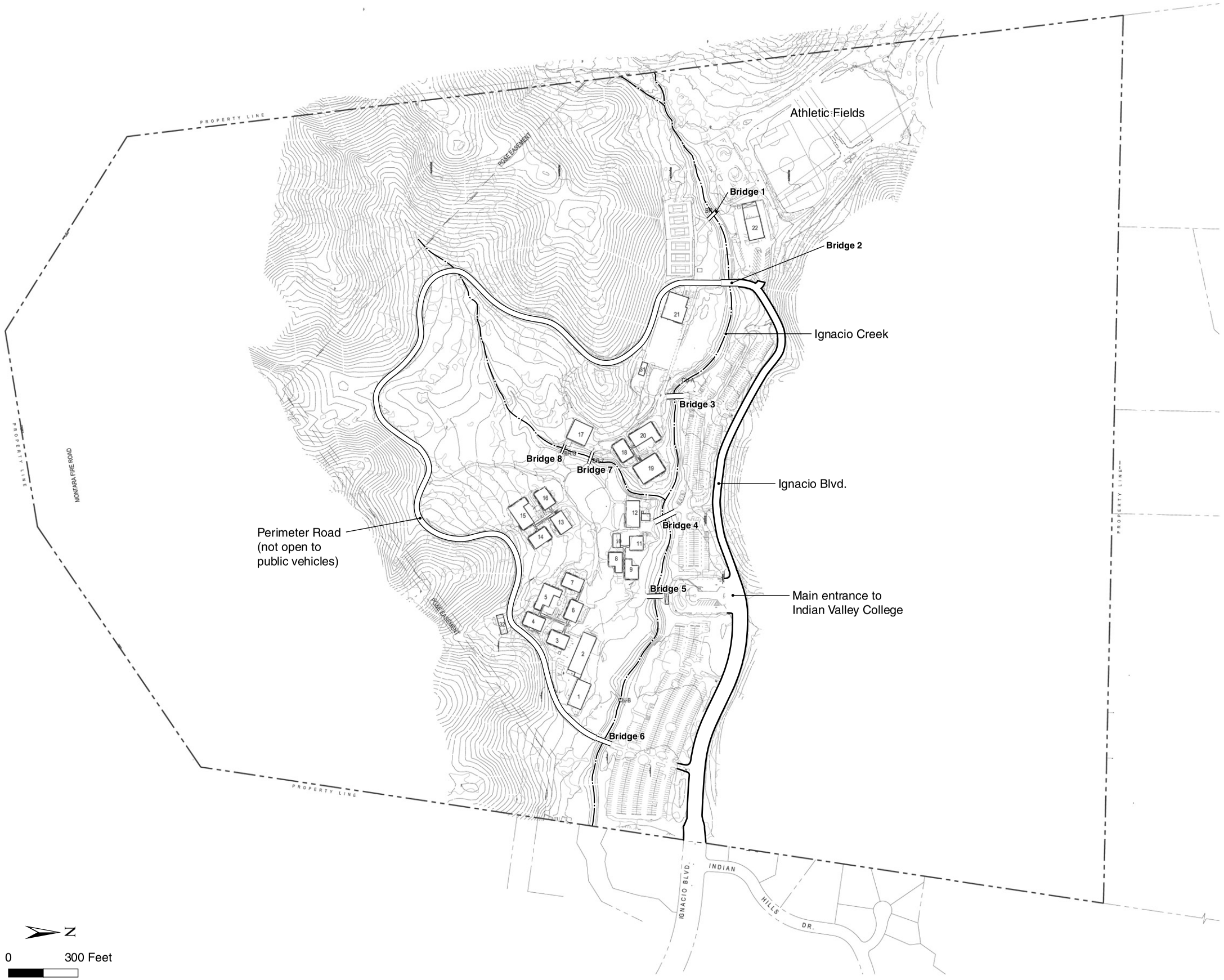
3.2 PROJECT LOCATION

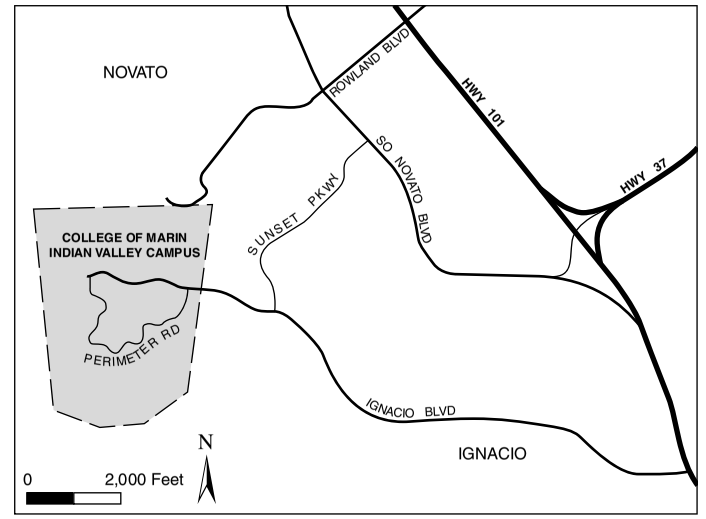
The Indian Valley campus of the College of Marin is located in northern Marin County in the incorporated community of Novato. The main access to the 333-acre campus is provided via Ignacio Boulevard, which intersects U.S. Highway 101 to the east. The campus forms the terminus of this roadway. A regional and project location map is provided in Figure 3-1.

3.3 PROJECT SITE CHARACTERISTICS

The Indian Valley campus (see Figure 3-2) includes approximately 176,820 gross square feet (gsf) of building area in 24 buildings (including three power plants). Of the total acreage, about 87 acres are developed as the "main" campus where all of the academic buildings are concentrated. Ignacio Creek forms a major natural feature that flows through the center of the campus, separating the existing parking area from the academic core. Numerous pedestrian and service vehicular bridges provide access across the creek to the main campus (see Figure 3-1).

A total of 900 parking spaces are provided on the campus in eight surface parking lots. All of these lots are located on the north side of Ignacio Creek, in the vicinity of the main campus (see Figure 3-2).





REGIONAL LOCATION

LEGEND

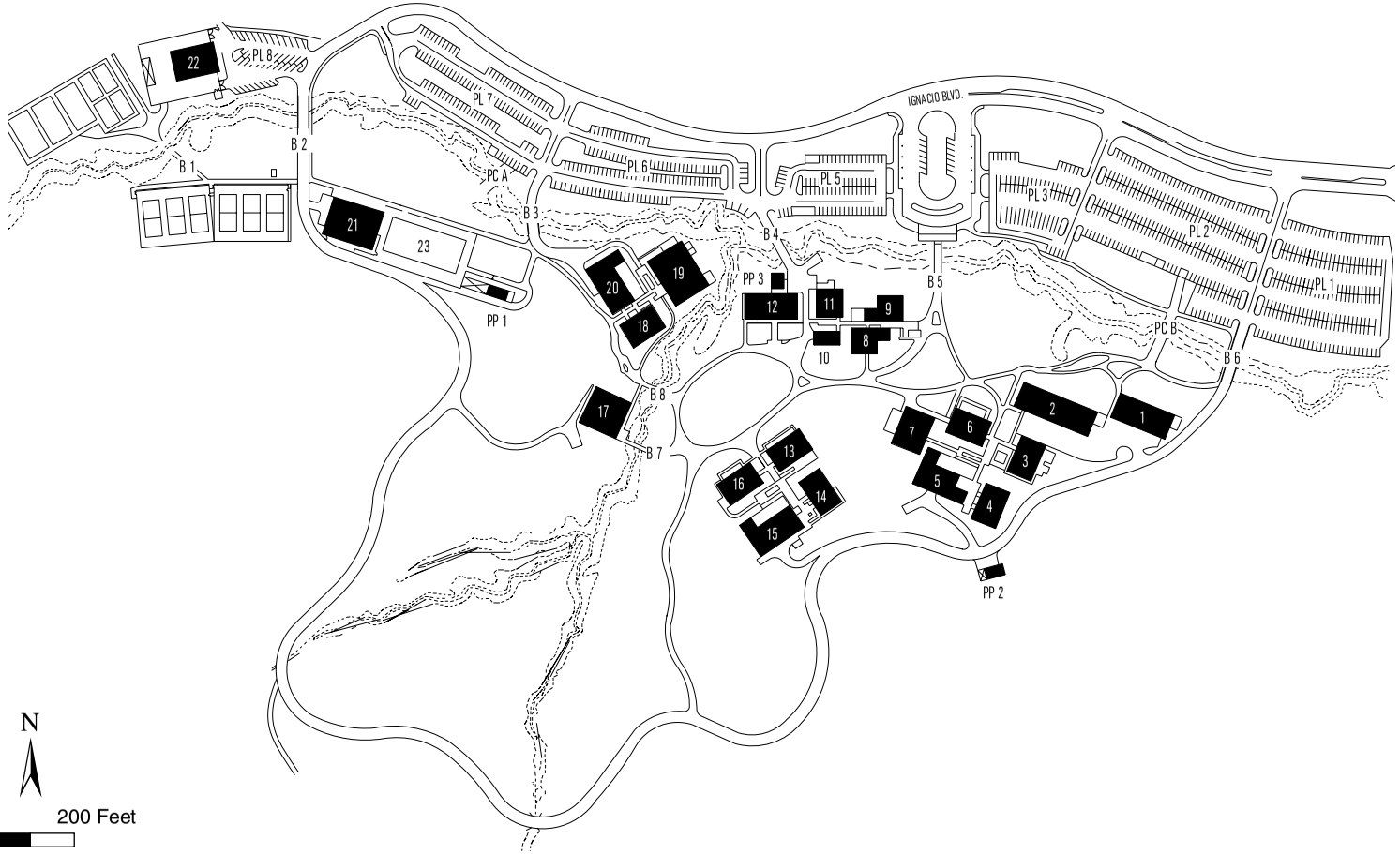
- Campus property boundary
- Existing buildings
- PG&E easement
- Creek

SOURCE:CSW 2005

AMY SKEWES-COX
ENVIRONMENTAL PLANNING

Figure 3-1

REGIONAL AND PROJECT LOCATION FOR INDIAN VALLEY CAMPUS



NO. BUILDING NAME

POMO CLUSTER
1 Auto Body & Fender
2 Auto Technology Lab
3 General Classrooms/ Medical Labs/ Offices
4 Machine & Metals Technology
5 Math Lab/ Food Vending
6 General Classrooms/ Labs/ Offices
Geology/Geography/ Chemistry/ Biology
7 General Classrooms/ Labs/ Offices/ Language
ADMINISTRATIVE SERVICES
8 Student Services
9 Administrative Services
10 Associated Students
11 Information Systems Services
12 College Bookstore/ Child Care Center
MIWOK CLUSTER
13 Art Labs/Art Gallery/ General Classrooms
14 Foreign Languages Classes/ Offices
15 Studio Theatre/ Student Lounge/ Deli
16 Digital Village
17 Library/ Eops/ Foreign Language
OHLONE CLUSTER
18 Computer Labs/ Offices/ Court Reporting Labs
19 General Classrooms/ Labs/ Offices
Office Occupations/ Court Reporting
20 Food Vending/ P.E./ Classrooms/ Multi Media
21 Pool/ Shower-locker Building
22 Campus Police/ Corporation Yard
23 Pool
PARKING LOTS
PL 1 Parking Lot 1
PL 2 Parking Lot 2
PL 3 Parking Lot 3
PL 4 Parking Lot 4
PL 5 Parking Lot 5
PL 6 Parking Lot 6
PL 7 Parking Lot 7
PL 8 Parking Lot 8
BRIDGES AND PAVED CULVERTS
B 1 Bridge 1- Pedestrian only
B 2 Bridge 2
B 3 Bridge 3
B 4 Bridge 4
B 5 Bridge 5- Pedestrian only
B 6 Bridge 6
B 7 Bridge 7- Pedestrian only
B 8 Bridge 8- Pedestrian only
PC A Paved Culvert A
PC B Paved Culvert B
POWER PLANTS
PP 1 Power Plant 1
PP 2 Power Plant 2
PP 3 Power Plant 3

Figure 3-2

SOURCE:Steinberg Architects, 2006

INDIAN VALLEY CAMPUS DETAIL WITH BUILDING IDENTIFICATION

The western portion of the campus includes sports fields and the campus swimming pool. These fields and swimming pool are shared with the community and local schools for public/school sports events. Oak and bay-covered hillsides surround the main campus and form a "bowl" around the western portion of the campus (see Figure 3-3). This area is the main watershed of Ignacio Creek. No development is proposed to occur in this existing hillside area of the campus.

The Indian Valley campus has existed since the mid-1970s when the Marin Community College District expanded its facilities to serve residents of northern Marin County. Up until that time, the only community college serving Marin residents was the Kentfield campus of the College of Marin.

3.4 PROJECT NEED

The District has undertaken a number of studies to evaluate the existing condition of buildings at the Indian Valley campus. The first study was the "Facility Condition Assessment Report" undertaken in 2003 by 3D/I (3D/I, 2003). This report formed the basis of the requested improvements for the Measure C Bond Program that was approved by the County's voters in 2004.

Many of the Indian Valley campus buildings are in a state of disrepair and have significant fire and life safety issues. However, all buildings at the Indian Valley campus have been found to be seismically safe.

3.5 PROJECT CHARACTERISTICS

The Implementation Plan at the Indian Valley campus would be constructed over a six-year period. At completion, the campus is expected to have an enrollment of about 1,180 students, which would be about a 19-percent increase over the 2006-2007 enrollment of 987 students. Table 3-1 presents existing and projected enrollment and building space. Figure 3-4 illustrates the proposed site plan of the Bond Spending Implementation Plan.

The Implementation Plan would be constructed over a six-year period.

MODERNIZATION AND CONSTRUCTION OF NEW BUILDINGS

Three buildings and the three existing power plant structures on the Indian Valley campus would be upgraded/modernized. No buildings are proposed for demolition at this time. Detailed assessments were done by a team of engineers, architects, and specialists in hazards, ventilation, and other specialties during 2006 (Marin Community College District, 2006a). These recent assessments augmented the work done by 3D/I in 2003 (3D/I, 2003). Full copies of these assessments can be viewed at the offices of Swinerton Management & Consulting located on the Kentfield campus, Building MS-3 or on the College's website.

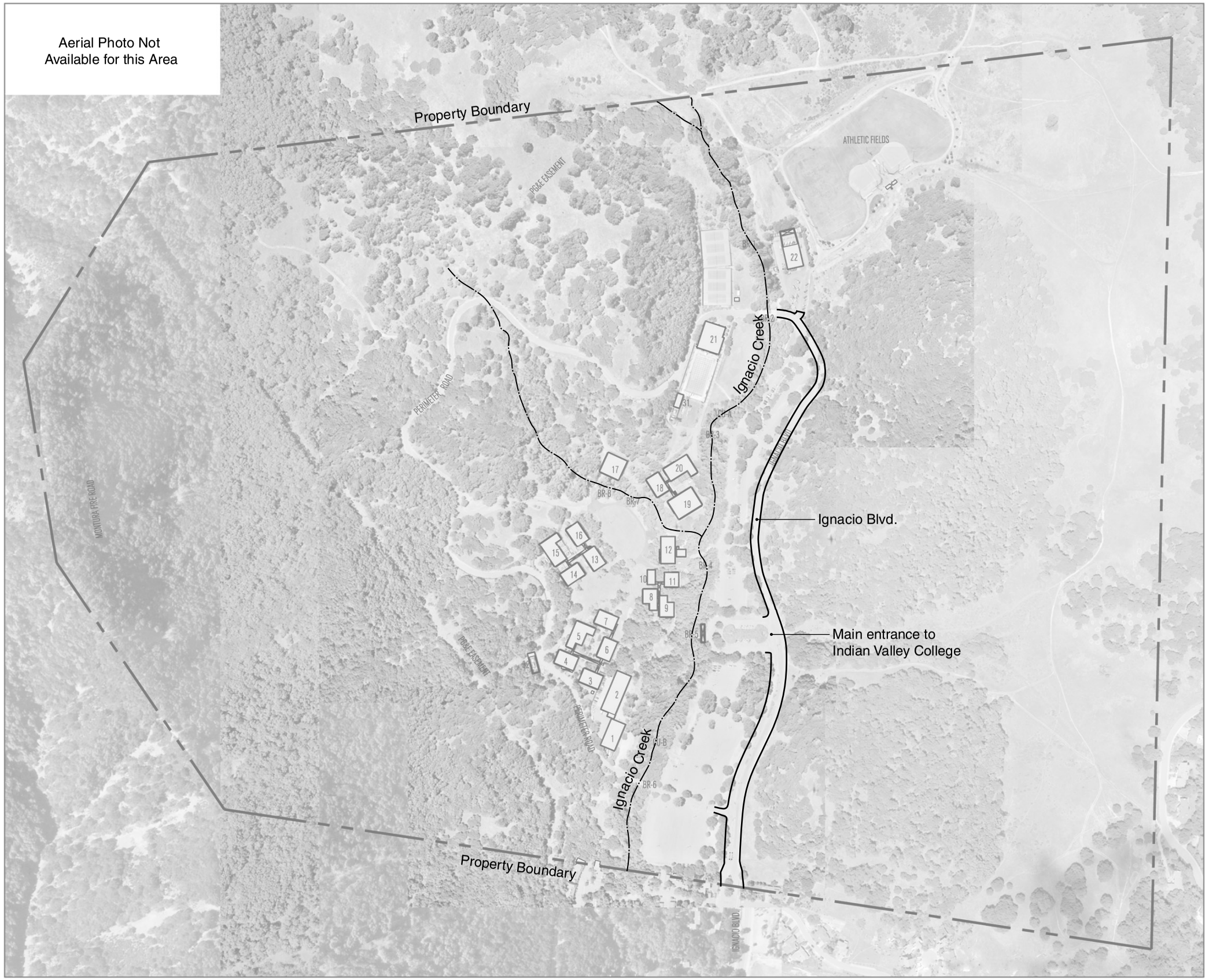


Figure 3-3

AERIAL PHOTOGRAPH OF INDIAN VALLEY CAMPUS

SOURCE:CSW/St^2

AMY SKEWES-COX
ENVIRONMENTAL PLANNING

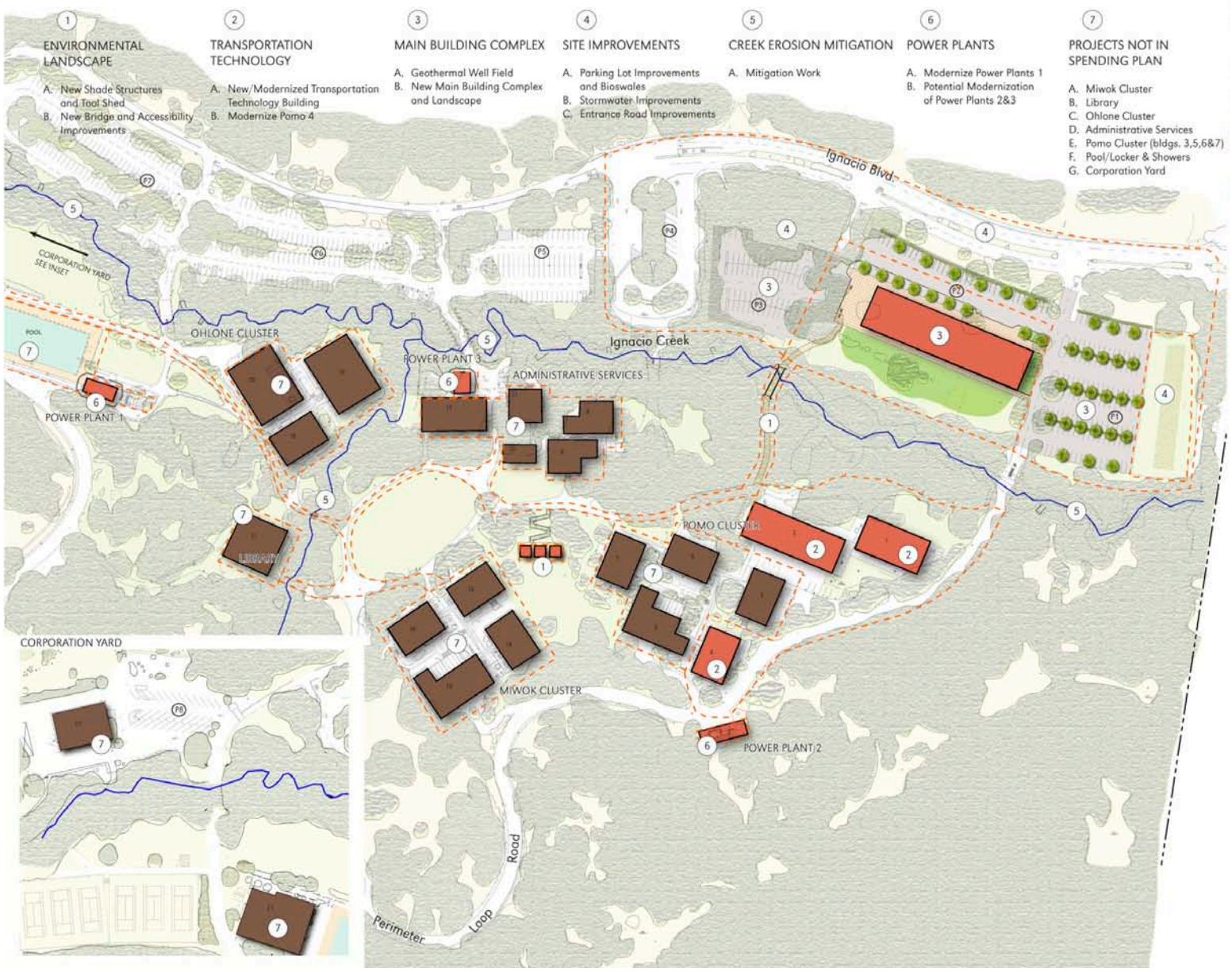


Figure 3-4

SOURCE: RHAA 2007

INDIAN VALLEY CAMPUS BOND SPENDING IMPLEMENTATION PLAN

Table 3-1 Existing and Projected Student Enrollment, Faculty/Staff, and Building Area

	Existing	Total at Completion of Bond Spending Implementation Plan	Change
Number of Students	987	1,179	+192
Number of Faculty & Staff	120	120	0
Gross Square Feet of Building Area (Approximate)	176,820	201,820 to 213,820	+25,000 to 37,000

The proposed new building would be a new Main Building Complex to be located on the north side of Ignacio Creek in Parking Lot 2 (see Figure 3-4). This complex would house classrooms, general labs, student services, learning labs, and library space. The building would be between 25,000 and 37,000 gross square feet in size. An outdoor "green space" at the south side of the building near the creek is proposed as a student gathering and picnic area. Elevations and a site plan for this building can be found in Appendix E.

Buildings that would be modernized would include the Transportation Technology Complex (Pomo 1 and 2). (See Appendix G for site plan and elevations for this project.) Pomo 4 and Power Plants 1, 2, and 3 may also be upgraded and/or modernized; this work might include roof replacement and replacement and relocation of the heating distribution system (campus boilers) and replacement of the high-voltage distribution system.

SITE IMPROVEMENTS: LANDSCAPING, PATHWAYS, LIGHTING, PARKING, AND UTILITIES

In addition, the project would include overall site improvements such as new landscaping; new pathways; reconfiguration of Parking Lots 1, 2, and 3 and the existing entry parking area; and new utility lines as required for individual projects (water, wastewater, gas, electricity, and telecommunications).

Landscaping, Parking Lots, and Ignacio Creek Improvements. The main areas proposed for new landscape improvements include Parking Lots 1, 2, and 3; the existing parking entry area; and the main campus entry (see Figure 3-5). Landscape plans are scheduled for concept development in the next months. The Design Guidelines for the Indian Valley campus address the goal of new plantings that are native, drought-tolerant, and low maintenance. These same Guidelines address paving materials, irrigation, seatwalls and stairs, lighting, site

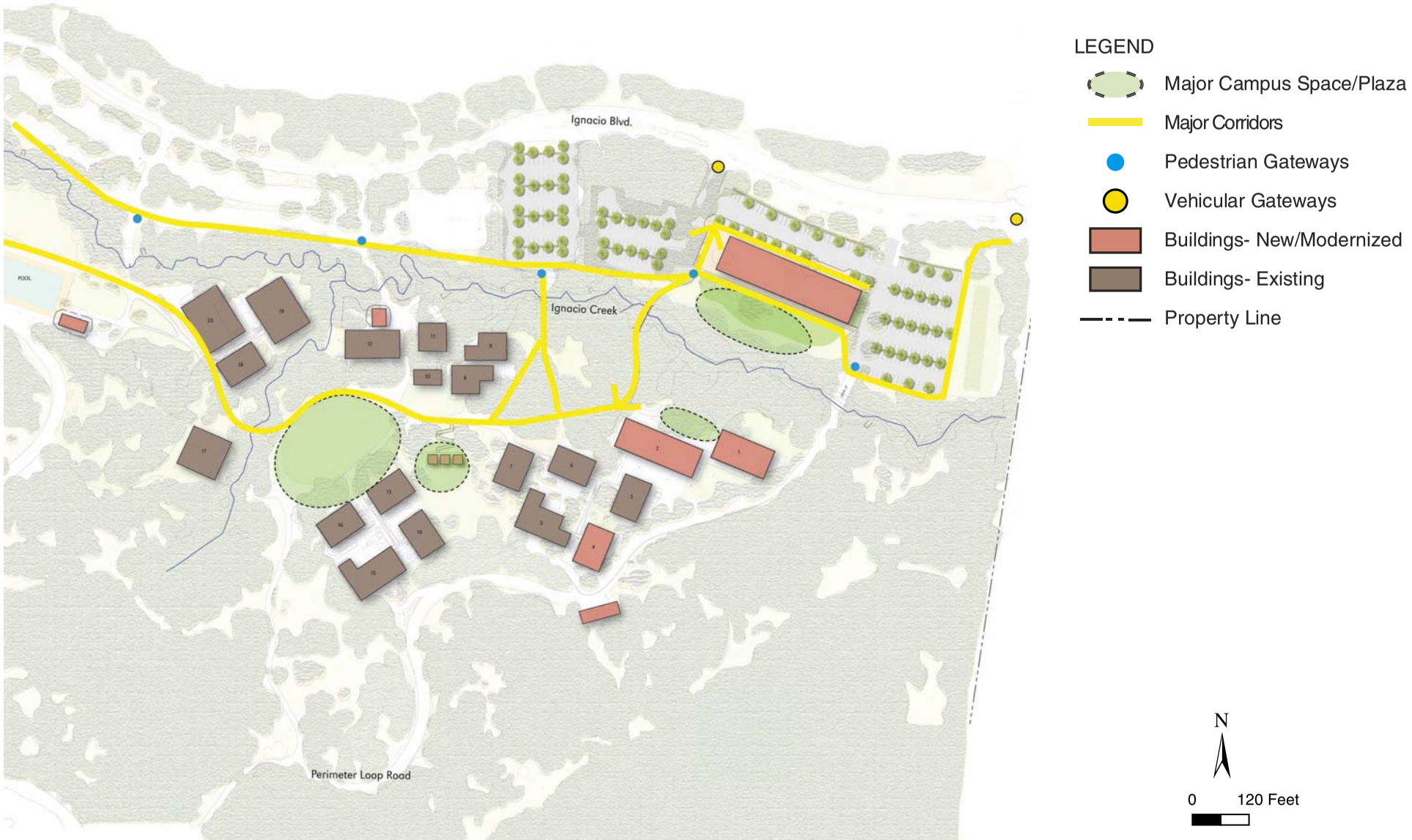


Figure 3-5

SOURCE: RHAA 2007

LANDSCAPE CONCEPTS FOR INDIAN VALLEY CAMPUS

furnishings and a number of other elements in the design of the new improvements (Marin Community College District, 2006a). The Implementation Plan also proposes an additional pedestrian bridge linking the west area of the new Main Building Complex and the rest of campus to the south.

The eastern portion of Parking Lot 1 is proposed to be converted to a landscape area with stormwater detention features and native plantings to provide a buffer for adjacent residential neighbors. Parking Lots 2 and 3 would have new tree plantings and stormwater improvements to enhance the landscape (see Figure 3-5).

Creek mitigation measures would be implemented for Ignacio Creek, which has undergone severe erosion to the point of threatening adjacent buildings and infrastructure. Some examples of mitigation measures include stabilization measures such as strategic installation of rip-rap in the creek to stop scour at all existing vehicular and pedestrian bridges, strategic replacement of non-native plants with native plants along the creek banks, removal of old construction bridge structures in the creek that have caused increased erosion over time, and other miscellaneous hydrology improvements.

Outdoor lighting would be designed to maximize public safety and security while minimizing visual intrusion to adjacent residential areas. Outdoor light fixtures would include shrouds and other shielding as appropriate. Lighting along pedestrian corridors would be low-level lights. To the extent practicable, area lighting and security lighting would be controlled by the use of timed switches and/or motion detector activation to reduce energy consumption.

Pathways and Bridges. As required by the Division of the State Architect (DSA), pedestrian pathways would be upgraded to meet Americans with Disabilities Act (ADA) requirements. One new pedestrian bridge may be provided to replace the existing bridge. However, the existing bridge is not a "real bridge" but a remnant of a temporary construction access that was never removed when the campus was constructed 35 years ago. The removal is viewed as a mitigation measure and is also proposed as a means to alleviate erosion in this reach of the creek. The new bridge would be in addition to the existing pedestrian bridges and would be intended to link the new building more closely to the central campus near Parking Lot 3. This bridge would provide access for pedestrians only. The bridge is proposed to be the approximate width of the creek with additional length necessary to create a clear span across the creek so that no new infrastructure in or disturbance of the creek would be necessary.

Pedestrian pathways would be upgraded to meet Americans with Disabilities Act (ADA) requirements.

Campus entrances may be redesigned. Figure 3-6 shows the proposed pedestrian circulation system.

Utility Lines. New and renovated buildings would be served by electricity, chilled water, natural gas, wastewater, telecommunications (phone, fiber optics, and other signal systems), storm drainage, and water. In general, new trenches

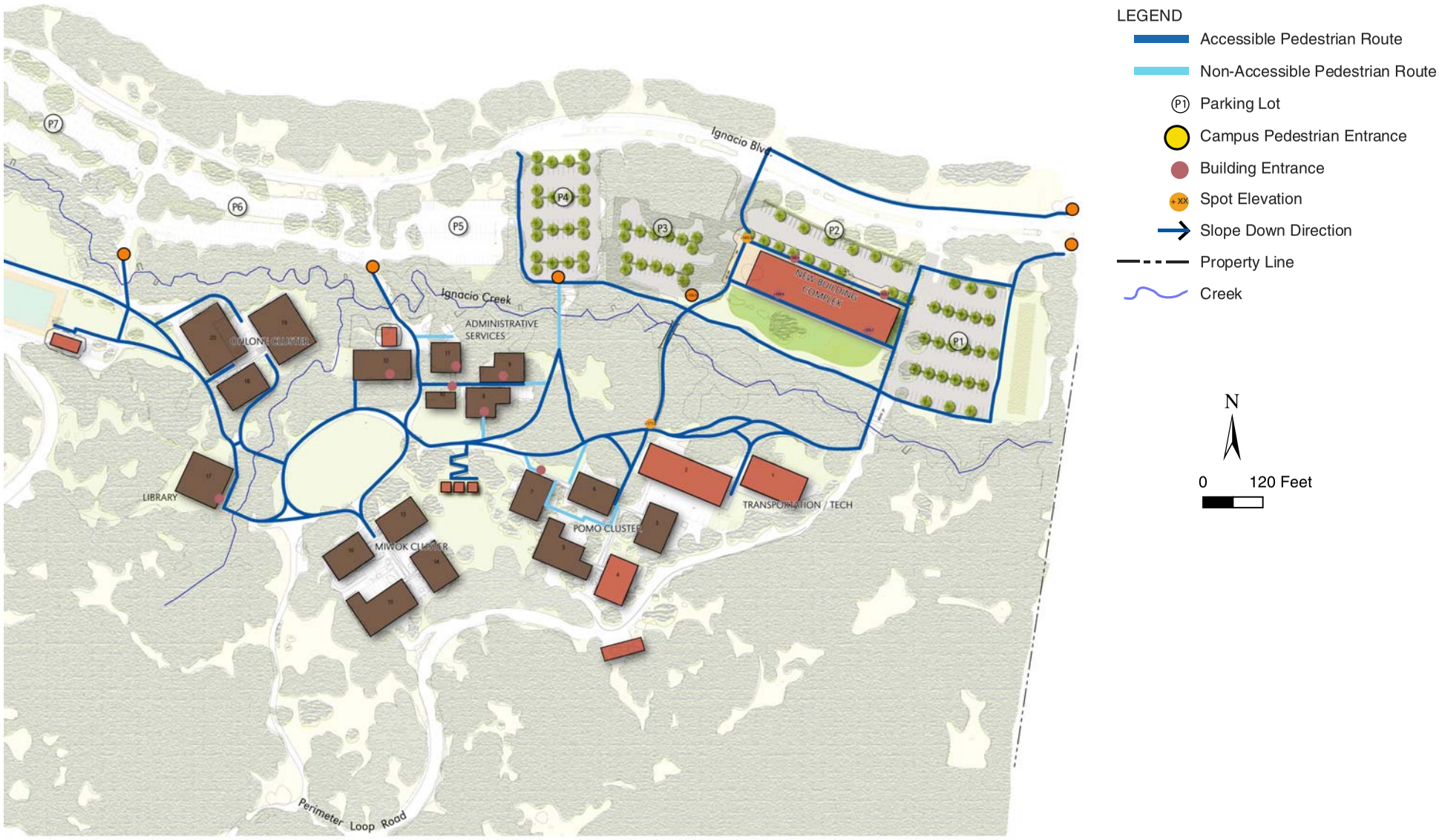


Figure 3-6

SOURCE: RHAA 2007

PEDESTRIAN CIRCULATION AT INDIAN VALLEY CAMPUS

would be constructed on the main campus in the area of Pomo 1 and 2 and the area serving the new Main Building Complex.

A new gas main was recently installed on the campus due to leaks and fire hazards associated with the old gas main. This project has been completed and is not addressed in this EIR.

A geothermal field is proposed for Parking Lots 1 and 2.

A geothermal field is proposed for Parking Lots 1 and 2 (Figure 3-7). This field would allow the College to reduce the energy needs of the proposed new Main Building Complex by taking advantage of the cooling provided by the temperature differential below the earth's surface. The geothermal system would circulate a water-based solution through a buried loop system to take advantage of the constant temperatures about 200 to 300 feet below the surface. The system would then be connected to the cooling/heating system for the campus buildings to minimize the heating/cooling necessary by the use of traditional non-renewable energy sources (i.e., natural gas and electricity from non-renewable sources).

PHASING OF FACILITIES

A summary of the projects in their projected order is shown in Table 3.2. A total of 25,000 to 37,000 net new gross square feet (gsf) of building area would be developed. The overall construction is expected to be completed by 2013.

BUILDING MASS, HEIGHT AND DESIGN

The proposed new Main Building Complex would be two stories in height and would be designed as recommended in the *Design Goals, Principles, Guidelines: College of Marin Facilities Development Plan* (Marin Community College District, 2006b). Schematic-level design documents had been completed for the new Main Building Complex and the Transportation Technology Complex as of the printing of the Draft EIR (see Appendix E and Appendix G).

Vehicle Access, Parking and Bicycle Facilities

Few changes to the existing vehicle access and circulation patterns on the Indian Valley campus are proposed. Vehicle circulation is shown in Figure 3-8. The main changes would entail restriping of parking spaces and new landscaping in parking areas. Vehicular access to the new Main Building Complex would be from Ignacio Boulevard. The total number of parking spaces in the parking lot in this area (Lot 2) would be reduced, but initial assessments have shown an excess of spaces for daily campus needs. New bicycle facilities, including bike racks, changing rooms and showers, have been identified in the schematic design documents to comply with the stated District LEED goals.

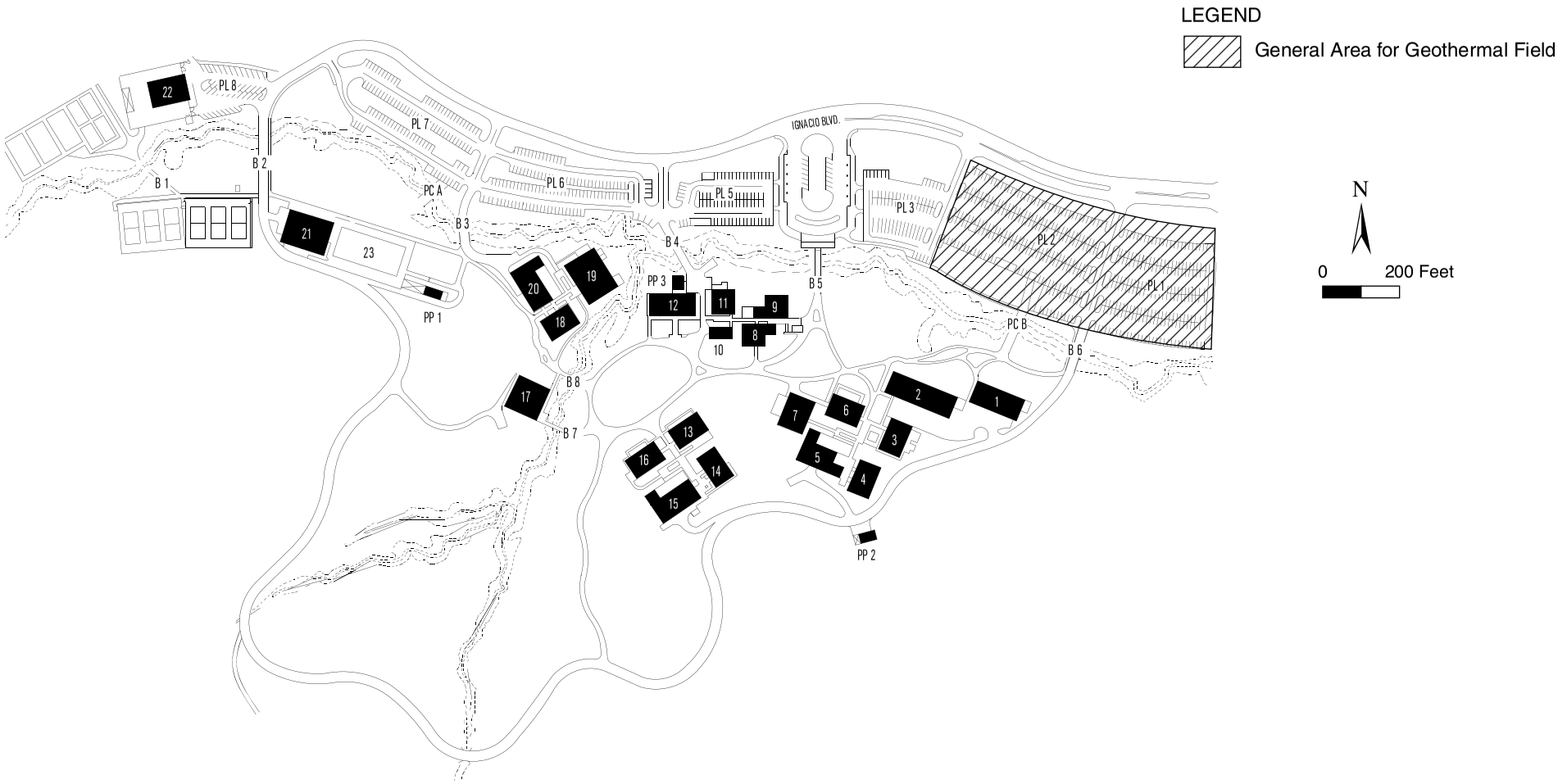


Figure 3-7

SOURCE:Steinberg Architects, 2006

PROPOSED GEOTHERMAL FIELD AT INDIAN VALLEY CAMPUS

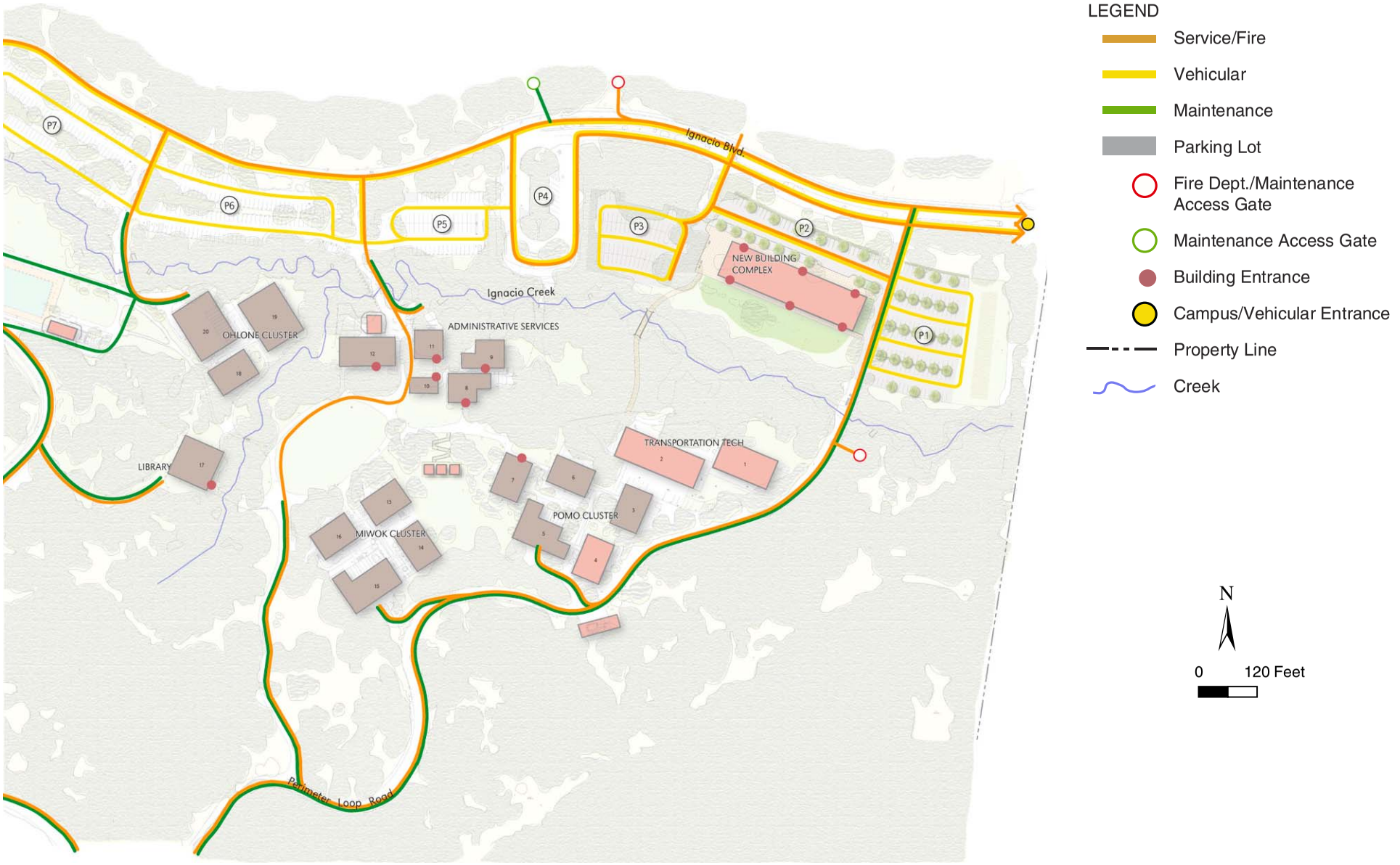


Figure 3-8

SOURCE: RHAA 2007

VEHICULAR CIRCULATION AT INDIAN VALLEY CAMPUS

Table 3-2 Phased New/Modernized Projects at Indian Valley Campus

Order of Project	Use	Existing GSF	Proposed GSF	GSF to be Demolished	Summary
1	Shade Structure , Tool Shed and Greenhouse	NA	1,500	NA	These structures are intended to support the storage of tools and plants currently housed on the Kentfield campus in support of the Environmental Landscape program.
1B	New Bridge	NA	NA	NA	A new bridge may be constructed near Parking Lot 3 to provide pedestrian access to the main campus.
2A	Modernized Transportation Technology Buildings (Pomo 1 and 2)	17,900	NA	0	The existing auto tech buildings at the eastern end of the campus (Pomo 1 and 2) would be modernized in the existing building footprints.
2B	Modernized Pomo 4	5,600	NA	NA	Minor modernization may occur at Pomo 4, the Machine Shop.
3A	Geothermal Field	NA	NA	NA	A geothermal field would be developed in Parking Lots 1 and 2 near the proposed new Main Building Complex.
3B	New Main Building Complex	NA	35,000	NA	The new Main Building Complex would house classrooms, labs, and other primary facilities. This would be the first campus building to be located on the north side of Ignacio Creek. Landscaping would be provided around the building and a southern open space for socializing would be provided.
4A/B/C	Parking Lot Improvements and Bioswales	NA	NA	NA	These improvements would include landscaping, stormwater detention, and bioswales to improve water quality.
5A	Creek Erosion Mitigation	NA	NA	NA	Some examples of mitigation measures include stabilization measures such as strategic installation of rip-rap in the creek to stop scour at all existing vehicular and pedestrian bridges, strategic replacement of non-native plants with native plants along the creek banks, removal of old construction bridge structures in the creek that have caused increased erosion over time, and other miscellaneous hydrology improvements.
6A and 6B	Power Plants Modernization	NA	NA	NA	Power plants would be modernized and may include new distribution lines and boilers and 12-kilovolt switchgear.
TOTAL		23,500[a]	36,500	0	For the EIR, a range of new square footage of 25,000 to 37,000 gsf will be assessed. The EIR will address a general program that may have changes in overall square footage as projects are designed.

Notes: gsf = gross square feet. NA = not applicable. When buildings are modernized and no square footage changes are proposed, "NA" is shown. See Figure 3.4 for location of projects.

[a] The total existing gsf does not include many buildings that are not proposed for modernization such as the Miwok Cluster, the Library, Administrative Services, Ohlone Cluster, and most of Pomo Cluster.

Site Grading

Site development for the new Main Building Complex would require minor grading to prepare the site. Grading would be balanced and would not require the import of fill. Most areas of the developed portions of the campus are generally level.

Energy-Efficient Design

Facilities would be designed with efficient heating and cooling systems beginning with the orientation of the buildings on the site and the placement of the windows on the buildings to maximize natural winter heat gain and minimal summer heat gain. Furthermore, the new Main Building Complex would be constructed of building systems that provide appropriate levels of thermal protection. Skylights and clearstory windows would assist in providing required lighting. The building would be conditioned with a steady state water system controlled by a geothermal field adjacent to the new Main Building Complex where maximum efficiencies can be achieved (see description below). To maximize efficient use, all mechanical and electrical systems and lighting would be controlled via a central energy management system (EMS), which is the current system used by both campuses. Pomo 1 and 2 would not use a geothermal field. The College's consultants are investigating the possibility of diverting stormwater runoff near Pomo 1 and 2 into a planned bio-swale area to the east of the project, thus slowing down the peak water flows and filtering the water before it enters the existing storm water system pipe and creek outfall structure.

GEOTHERMAL GROUND COUPLED HEAT EXCHANGE SYSTEM

The number and depth of geothermal bores would be based on the results of the test bores currently being evaluated. However, it is estimated that the Indian Valley campus would require about 200 bores approximately 200 feet in depth. As already noted, the District is proposing to develop a geothermal field in Parking Lots 1 and 2. (See Figure 3-7 for general location of proposed geothermal field.) The number and depth of bores would depend on the test bore thermal conductivity evaluation that is currently underway. The tests will determine the earth's ability to reject and absorb heat. Areas with high water content tend to provide higher thermal conductivity, and greater energy exchange and energy efficiency.

Geothermal technology, also referred to as "geoexchange," relies primarily on the earth's natural thermal energy, a renewable resource, to heat and cool. Below the earth's surface the temperature is constant. In Marin County, these temperatures are usually 58° to 62° Fahrenheit (F). This is an ideal temperature for both heating and cooling.

Each bore hole contains a single loop of pipe with a U-bend at the bottom. After the pipe is inserted, the hole is backfilled and grouted. Each vertical pipe is then connected to a horizontal pipe, which is also concealed underground.

Geoexchange systems do the work that ordinarily requires two appliances, a boiler and an air conditioner (chiller). Geoexchange works differently from heat pumps that use the outdoor air as their heat source or heat sink. Geoexchange systems do not have to work as hard (which means they use considerably less energy) because they draw heat from a source whose temperature is moderate. The temperature of the ground a few feet beneath the earth's surface remains relatively constant throughout the year, even though the outdoor air temperature may fluctuate greatly with the change of seasons. At a depth of approximately 6 feet, for example, the temperature of soil at the campus remains constant between 58°F and 62°F. This is why well water drawn from below ground is cool even on the hottest summer days.

In winter, it is much easier to capture heat from the soil at a moderate 58° to 62°F than from the atmosphere when the air temperature is much colder. Conversely, in summer, the relatively cool ground absorbs a building's rejected heat more readily than the hot outdoor air.

Approximately 70 percent of the energy used in a geoexchange heating and cooling system is renewable energy from the ground. Federal agencies such as the Environmental Protection Agency and the Department of Energy, as well as State agencies such as the California Energy Commission, promote the use of geoexchange systems.

The District is committed to obtaining leadership in Energy and Environmental Design (LEED) certification.

Leadership in Energy and Environmental Design (LEED)

The District is committed to obtaining Leadership in Energy and Environmental Design (LEED) certification, which allots points for various energy-saving and environmentally preferable features. All design and engineering firms hired by the District to work on the Bond projects have LEED-certified professionals on their staff assigned to the District projects. In addition, the District is using a LEED-certified commissioning agent for enhanced commissioning of all systems on new projects. This is in keeping with the District-stated mandate to achieve a minimum of LEED certification on all projects, with a goal of LEED silver on the new main projects. Also, "green building" design principles are addressed at length in the *Design Goals, Principles, Guidelines (Volume IB)* document of the Bond Spending Implementation Plan. See Appendix D for a LEED Checklist that shows how specific points are obtained for various levels of LEED certification.

HOURS OF OPERATION

Hours of operation at the Indian Valley campus would be 8:00 AM to 10:00 PM Monday through Friday, and would not change from existing hours of operation. Some classes (Auto Tech, Art, etc.) would also be offered on Saturdays as they

are now. Vacation weeks in the school calendar would vary by season as they do now.

3.6 PROJECT OBJECTIVES

The Marin Community College District is committed to upgrading the College's facilities in compliance with the Measure C Bond Program. The following objectives have been identified for the project:

1. Provide functional instructional and administrative space to meet program requirements.
2. Provide upgrades to the existing Indian Valley campus to serve the growing population in this area.
3. Provide job training and academic programs to assist the unemployed and underemployed in obtaining employment and advancement.
4. Provide lower division college classes for transfer students to 4-year university programs.
5. Participate in a collaborative partnership with other educational providers, the business community, and local government to better serve the community.
6. Improve campus facilities to accommodate a total campus population of approximately 1,180 students at completion of the Bond Spending Implementation Plan.
7. Focus development within the existing central Indian Valley campus.
8. Obtain LEED certification on all new and renovated projects.
9. Provide a new Main Building Complex on the north side of Ignacio Creek to house many of the existing programs within a new modern facility and with shared resource spaces.
10. Modernize the Transportation Technology Complex (two buildings) including new auto tech labs and other instructional areas; replace existing outdated equipment and upgrade computer technology.
11. Provide for minor modernization to Pomo 4 building, which supplies program support space to the Transportation Technology Complex.
12. Upgrade the Pomo 1 and 2 buildings for energy conservation.
13. Improve disabled access on exterior pathways.
14. Enhance job training.
15. Incorporate "green building" practices into all capital improvement projects.

3.7 PROJECT APPROVAL AND FUNDING PROCESS

The Marin Community College District is the principal authority for the proposed project. The Board of Trustees for the District would be responsible for certifying the EIR.

The following additional agencies would be involved in discretionary approvals and permits required for various project components:

- The State Chancellor's Office reviews all community college facilities projects and makes recommendations to the Board of Governors (BOG). The BOG then sets project priorities and submits a capital outlay request to the Department of Finance, the Governor, and the Legislature for state funding in the annual State budget.
- The Department of Finance provides fiscal and budget management for the Governor's executive branch of State government.
- The Office of the Legislative Analyst reviews the project budget as staff for the Legislature and advises them on budget requests for community college facility projects.
- The California Post-Secondary Education Commission (CPEC) coordinates programs of higher education to ensure they conform to the State Plan for Higher Education. CPEC advises the legislature regarding capital outlay for educational facilities.
- The Division of State Architect (DSA) reviews community college project designs to determine compliance with the California Building Code, fire safety, and Americans with Disabilities Act (ADA) requirements.
- The State Fire Marshal's Office has delegated fire code regulatory responsibilities for community college facilities to DSA.
- The Regional Water Quality Control Board (RWQCB) oversees permitting for projects that could affect water quality. The project would be covered under the State National Pollutant Discharge Elimination System (NPDES) General Construction Permit, which is accomplished by filing a Notice of Intent (NOI) with the RWQCB. A Storm Water Pollution Prevention Plan (SWPPP) may be required for the project.

3.8 REFERENCES

3D/I, 2003. *Facility Condition Assessment Report.* April.

Marin Community College District, 2006a. *Volume 2, Existing Facilities Assessments: Indian Valley.* December.

Marin Community College District, 2006b. *Design Goals, Principles, Guidelines: College of Marin Facilities Development Plan.* December.

4. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

This section addresses project-related impacts within the following 12 topic categories:

- Land Use and Planning
- Geology, Soils and Seismicity
- Biological Resources
- Hydrology and Water Quality
- Hazardous Materials
- Cultural Resources
- Transportation
- Air Quality
- Noise
- Public Services
- Public Utilities
- Energy and Sustainability

Each of the 12 topic sections in this EIR presents information in three parts, as described below.

INTRODUCTION

This section addresses the primary studies and other documents used in report preparation. All of these reports and documents are incorporated by reference into this EIR.

ENVIRONMENTAL SETTING

This section briefly describes elements of the project setting relevant to a discussion of impacts in the topic category.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

This section identifies potential impacts based on the identified significance criteria. If impacts are determined to be less than significant, a statement is made to this effect under the subsection entitled "Less-Than-Significant Impacts." Potentially significant project-specific impacts are numbered and summarized in bolded text. The level of significance prior to mitigation is also identified. The bolded text is then followed by a discussion of the particular impact. Mitigation

measures (indented text) that can reduce such impacts follow this discussion with a number that corresponds to the number of the impact. A statement regarding the level of significance of each impact after mitigation follows the mitigation measures for that impact. The term "PS" stands for "potentially significant" and "LTS" stands for "less than significant." The term "SU" stands for "significant and unavoidable."

4.1 LAND USE AND PLANNING

INTRODUCTION

This section of the EIR addresses the existing land use conditions at the Indian Valley campus and the immediate surroundings, and evaluates the project's compatibility with nearby land uses. This section also analyzes the project's consistency with the California Education Code and Novato General Plan and zoning. The following documents and other sources were reviewed:

- State of California, 2007. California Education Code (www.legalinfo.ca.gov/calow.html);
- Marin County Open Space District website (www.marinopenspace.org);
- Marin County, 2003. *Indian Valley Specific Plan*;
- City of Novato, 1996. *Novato General Plan* (www.ci.novato.ca.us); and
- City of Novato, 2006. Municipal Code.

ENVIRONMENTAL SETTING

EXISTING LAND USES ON THE PROJECT SITE

Approximately 246 acres – about 74 percent of the campus – are undeveloped.

The Indian Valley campus comprises approximately 333 acres. The campus presents a "park-like" setting with extensive tree coverage and approximately 246 acres, or about 74 percent of the campus, undeveloped. The remaining 87 acres are developed with college facilities. Ignacio Boulevard provides the primary access to the campus. Existing campus development is located south of Ignacio Boulevard. A perimeter road, with restricted access, encircles the majority of campus buildings and other facilities with the exception of the corporation yard, sports fields, and hard courts, which are located west of the Ignacio Boulevard terminus. College lands located north of Ignacio Boulevard are undeveloped and include oak/bay-covered hillsides and grasslands.

Figure 3-2 shows the existing campus site plan. The parking lots and main entrance/drop-off area are located between Ignacio Boulevard and Ignacio Creek. South of the creek is the campus core which includes classrooms, labs, student services, administration and other support facilities. The campus core buildings are sited in four clusters connected via a pedestrian pathway network. The corporation yard, pool, and sports fields are located in the western part of the campus.

Two fire road segments located on the Indian Valley campus connect with fire roads that are part of a trail system maintained by the Marin County Open Space District. A spur of the Montura Fire Road traverses the southern portion of the

campus and connects with the perimeter road (see Figure 4.1-1). The Montura Fire Road provides access to the Ignacio Valley Open Space Preserve. The Indian Valley Fire Road trailhead is located at the terminus of Ignacio Boulevard, and crosses the campus near the sports fields, continuing west to the Indian Valley Open Space Preserve. Figure 4.1-1 shows the trail system.

ON-SITE EASEMENTS

The campus contains several on-site easements. A 40- to 50-foot-wide Pacific Gas & Electric Company (PG&E) easement traverses the campus south of the perimeter road. Easements for transmission and distribution of water to the North Marin Water District cross the campus along the north and east property lines and at the western portion of the campus. Additionally, there is a 10-foot easement for gas and underground facilities along the perimeter road, and a 10-foot-wide easement for electrical facilities along Ignacio Boulevard. Figure 4.1-2 shows the approximate locations of the on-site easements.

EXISTING SURROUNDING LAND USES

The Indian Valley campus is surrounded by open space and residential development. Within a ¼-mile radius, the primary land uses are as follows: 1) west of campus – open space, including the Indian Valley Open Space Preserve; 2) north of campus – open space and a single-family residential subdivision; 3) east of campus – San Jose Middle School, single-family residential, multi-family residential, and Josef Hoog Park; and 4) south of campus – open space, including Ignacio Valley Open Space Preserve, and a single-family residential subdivision.

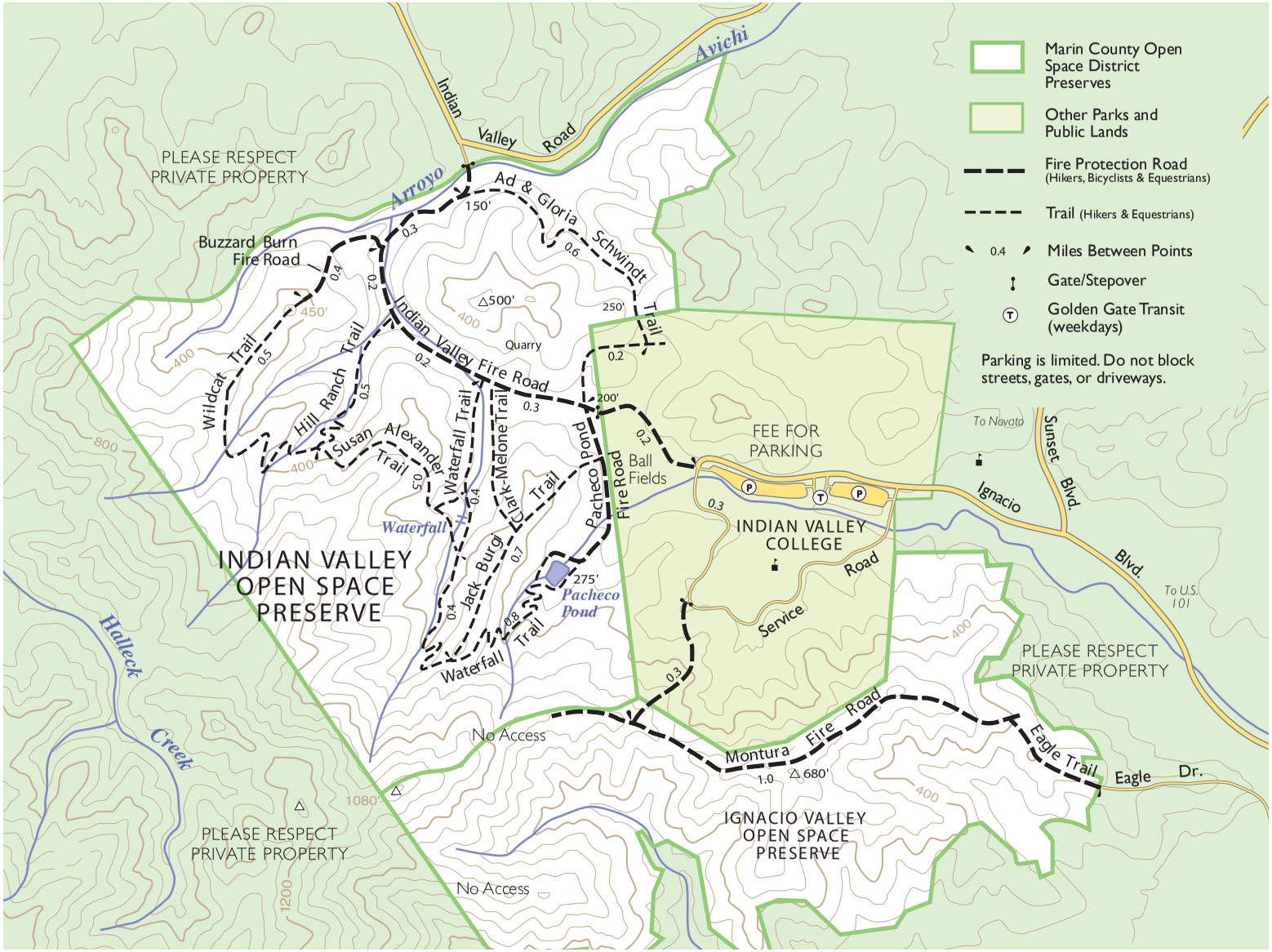
REGULATORY SETTING

California Education Code

The California Education Code includes standards for community college sites (State of California, 2007). These standards relate to locating a campus or constructing new buildings on an existing campus within a special studies zone or area designated as geologically hazardous, and locating a campus or constructing new buildings on an existing campus within 2 miles of an operative airport runway (Sections 81031 – 81033).

Novato General Plan and Zoning Code

The Marin Community College District is constitutionally exempt from local land use regulations when using District property in furtherance of the District's educational purposes. However, this Draft EIR evaluates the project's consistency with local land use regulations and policies for the purposes of CEQA compliance and also because it is the District's goal that local land use controls be acknowledged and adhered to as much as feasible.



Note: The Montara Fire Road is incorrectly shown in this graphic. This road is actually located within the Indian Valley Campus boundaries, based on recent surveys. See Figure 3-3.

Figure 4.1-1

SOURCE: Marin County Open Space District, 2007

INDIAN VALLEY CAMPUS AND INDIAN VALLEY OPEN SPACE PRESERVE

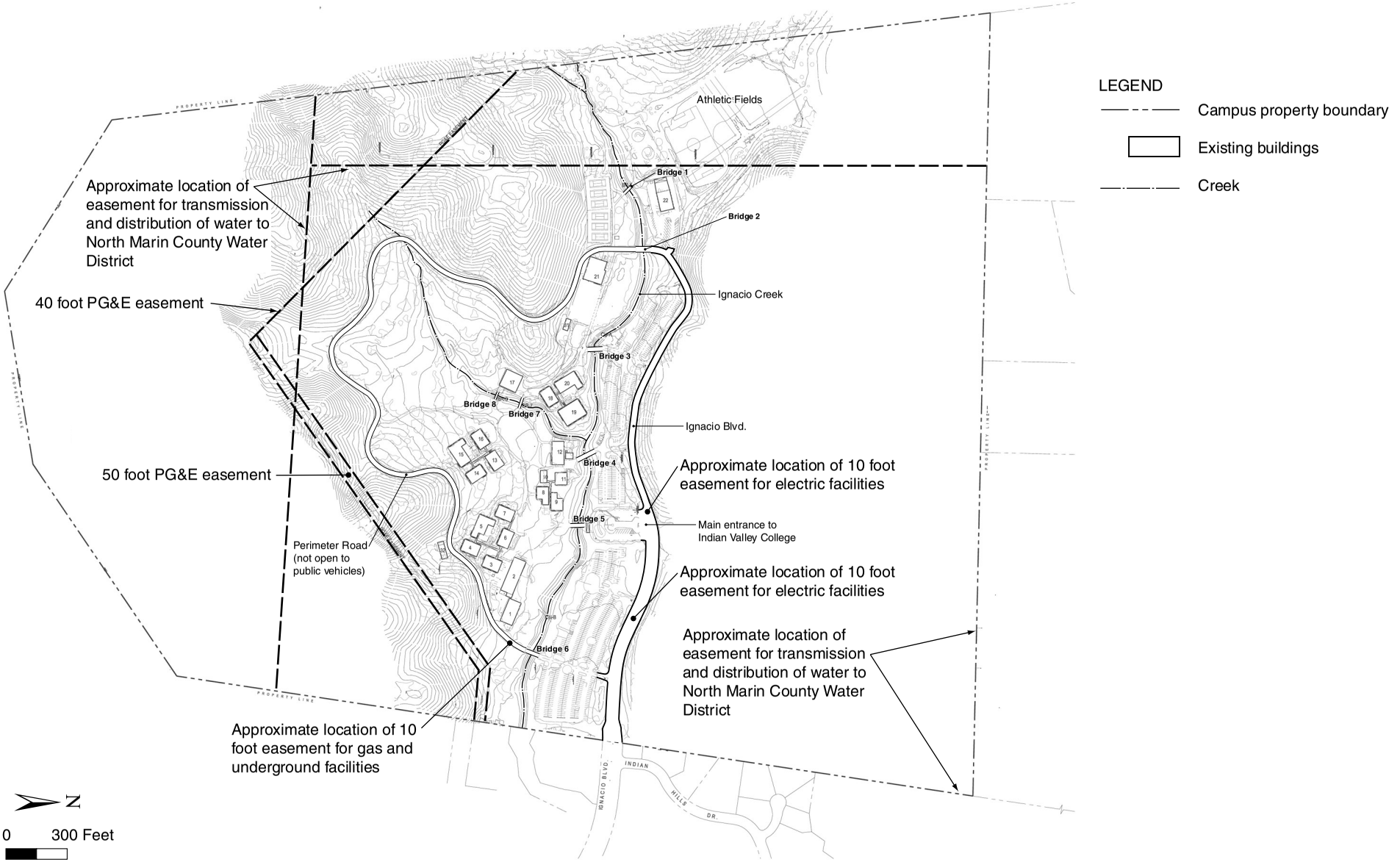


Figure 4.1-2

SOURCE:CSW 2005

ON-SITE EASEMENTS FOR INDIAN VALLEY CAMPUS

AMY SKEWES~COX
ENVIRONMENTAL PLANNING

The Indian Valley campus is designated "Community Facility" by the Novato General Plan. This land use designation allows for public buildings, schools, recreation and cultural facilities, public libraries and other public use buildings and facilities. The property is also zoned Community Facility, a zoning that allows government offices, schools, meeting halls, public libraries and other municipal uses. The college use at the project site is consistent with the General Plan designation and zoning.

Indian Valley Specific Plan

The Indian Valley Specific Plan (Specific Plan), adopted by the County of Marin in 2003, presents goals, objectives, policies and programs designed to preserve the unique attributes of Indian Valley. The Specific Plan focuses on residential development in the planning area. However, the Indian Valley campus is addressed in the Transportation and Circulation section of the Specific Plan.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

For the purposes of this Draft EIR, new development at the project site would present a significant land use impact if the project would:

- Physically divide an established community;
- Create land use conflicts on- or off-campus;
- Conflict with any applicable land use plans or regulations of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plans.

LESS-THAN-SIGNIFICANT IMPACTS

Project Overview

The project would result in the modernization of the existing Transportation Technology Complex (Pomo 1 and 2) and the potential modernization of Pomo 4 and Power Plants 1, 2, and 3. Building modernizations would occur within the existing building footprints. A new Main Building Complex containing 25,000 to 37,000 square feet would be constructed on a portion of Parking Lot 2. Site improvements would include landscaping; reconfiguring of Parking Lots 1, 2, and 3; upgrading of pedestrian pathways to meet Americans with Disabilities Act (ADA) requirements; proposed redesign work at campus entrances; a proposed replacement pedestrian bridge across Ignacio Creek; and outdoor lighting. A

bioswale would be located in a portion of Parking Lot 1. A geothermal well field would be constructed in the building vicinity in Parking Lots 1 and 2. No buildings are proposed for demolition. Chapter 3, Project Description, provides detailed information on the proposed project. Figure 3-4 show the proposed project site plan.

As addressed in the Initial Study Checklist for the project (available on College of Marin website), the Bond Spending Implementation Plan would not physically divide an established community, or conflict with any applicable habitat conservation plan or natural community conservation plan.

On-Site Land Use Impacts

Overall, the project would improve access and use of the facilities on-campus. The proposed modernization of existing buildings would improve these facilities for use by the students. This would represent a positive impact as it would enhance the learning experience for current and future students at the college.

Upgrades to pedestrian pathways to meet Americans with Disabilities Act (ADA) requirements would improve access for all students, staff, and visitors on the campus. New lighting would improve visibility and safety.

The new Main Building Complex would be constructed on a portion of the existing Parking Lot 2 and therefore its construction would not increase impervious surface area at the campus. The new Main Building Complex would provide a convenient location for visitors and students alike to register for classes and inquire about classes and student services. The new Main Building Complex would consolidate administration and student services at one location. While this building in addition to nearby landscape improvements would eliminate approximately 325 parking spaces, there is an adequate supply of parking to serve the campus, even with the loss of these parking spaces (see Section 4.7, Transportation, of this Draft EIR).

The proposed bioswale, stormwater bio-retention area, and geothermal field would be located on a portion of the existing Parking Lots 1 and 2, and therefore would not disturb any portion of the campus that is currently undeveloped. These improvements would be beneficial to the environment; the bioswale would improve water quality and slow down stormwater runoff, and the geothermal field would reduce energy consumption (as discussed in Sections 4.4 and 4.12 of this Draft EIR).

Impacts on Surrounding Land Uses

Student enrollment would undergo a very modest increase of less than 1 percent per year over the next six years. Therefore, the increase in intensity of use at the campus is considered to be a less-than-significant land use impact.

Very limited construction would occur, and impacts from project construction would be temporary. Refer to Sections 4.7 (Transportation), 4.8 (Air Quality), and 4.9 (Noise) for more detailed discussion of potential construction-related impacts.

Consistency with California Education Code

The project would be consistent with the California Education Code. The campus is not within a special studies zone or geologic hazardous area. Please refer to the Section 4.2, Geology, Soils and Seismicity, of this Draft EIR, which addresses geologic and soils conditions at the campus.

As indicated in the *Initial Study for Measure C Bond Spending Implementation Plan for College of Marin (2007-2013) Indian Valley Campus* (Marin Community College District, 2007), the Indian Valley campus is not within 2 miles of an operative airport runway. The nearest airport is Gnoss Field located about 5 miles northeast of the campus.

Consistency with Novato General Plan

Implementation of the project would be consistent with the applicable policies of the Land Use Element of the Novato General Plan. Appendix B presents the project relationship to applicable Novato General Plan policies.

Consistency with Indian Valley Specific Plan

The project would be consistent with the Indian Valley Specific Plan. As discussed in the Specific Plan, Indian Valley property owners have voiced opposition to any new access roads across Marin County Open Space District properties to connect the northwest portion of the Indian Valley campus with Indian Valley Road. The project does not propose a new vehicular access to the western portion of the campus via Indian Valley Road and would be consistent with Policy 3.2.3 of the Specific Plan.

POTENTIALLY SIGNIFICANT IMPACTS

Implementation of the project would not result in potentially significant land use impacts or require land use-related mitigation measures.

REFERENCES

City of Novato, 2006. Novato Municipal Code, Chapter XIX, Zoning. As amended January 23, 2006.

City of Novato, 1996. *Novato General Plan.*

Marin County, 2003. *Indian Valley Specific Plan.* Adopted March 4.

Marin Community College District, 2007. *Initial Study for Measure C Bond Spending Implementation Plan for College of Marin (2007-2013) Indian Valley Campus.* March. Prepared by Amy Skewes–Cox.

Marin County Open Space District, www.marinopenspace.org. Review of website April 26, 2007.

State of California, 2007. California Education Code, Division 7, Community Colleges, Part 49 Education Facilities, Section 81031-81033.

4.2 GEOLOGY, SOILS AND SEISMICITY

INTRODUCTION

This section describes the geology, soils, seismicity, site conditions, and regulatory setting of the project site, and identifies potential impacts and recommends mitigation measures for the proposed Bond Spending Implementation Plan (Implementation Plan) at the Indian Valley campus. Information regarding the setting was drawn from numerous data sources including:

- Fugro West, Inc., 2005. *Baseline Geologic Hazards Study, College of Marin, Indian Valley Campus, Novato.* December;
- The College of Marin Indian Valley Campus Bond Spending Implementation Plan;
- United States Geological Survey (USGS) Open File Reports (OFR) of the area, including a map of geology (USGS MF 2337, 2000) and landslides (USGS OFR 97-745, 1997);
- Review of Official California Geologic Survey (CGS) (formerly the California Division of Mines and Geology (CDMG)) Maps, including the San Rafael Quadrangle Alquist-Priolo (A-P) Earthquake Fault Zone Map (1982), the Fault Activity Map of California (1994); and the California Earthquakes Map, 1800-1999 (2001); and
- Various government websites, including the Association of Bay Area Governments (ABAG) website (www.abag.gov) for a summary of hazards ranging from liquefaction to distribution of landslides.

ENVIRONMENTAL SETTING

PROJECT REGION

Regional Seismicity

The project area lies in the tectonically active Coast Ranges Geomorphic Province of Northern California, on the east side of the Marin Peninsula. The geologic and geomorphic structure of the northwest-trending ridges and valleys in the region, including the San Francisco Bay, is controlled by active tectonism along the boundary between the North American and Pacific Tectonic Plates, which is the San Andreas Fault System. Regional faults have predominantly right-lateral strike-slip (horizontal) movement, with lesser dip-slip (vertical) components of displacement. Within the project area there are three major faults that display a major right-lateral strike-slip (horizontal) movement, with lesser dip-slip (vertical) components of displacement: the San Andreas fault, the Rodgers

Creek fault, and the Hayward fault (USGS, 2001). The other active faults in the area include the Rodgers Creek, Napa, and Concord/Green Valley faults (ABAG, 2007a). The nearest fault is the San Andreas, passing approximately 10 miles southwest of the site. The other nearby active faults include the Hayward (11 miles east), Rodgers Creek (9 miles north), West Napa (18 miles east), and Concord-Green Valley fault (25 miles northeast) (see Figure 4.2-1).

Seismicity of the project region has resulted in several major earthquakes during the historic period, including the 1868 Hayward Earthquake, the 1906 San Francisco Earthquake, and most recently, the 1989 Loma Prieta Earthquake (CDMG, 2000). The closest recorded large magnitude earthquake, magnitude 6.2, occurred 16 miles to the east at Mare Island in 1898, followed by the 1906 8.3 magnitude San Francisco event, 21 miles to the south. Numerous small (less than 5.5 magnitude), non-damaging earthquakes occur frequently in the project vicinity, while larger potentially damaging earthquakes occur occasionally. Surface rupture caused by earthquakes occurs when movement on a fault deep within the earth breaks through to the surface. According to the 1997 CGS Fault Hazard map, the project area is not in a surface rupture hazard zone (Hart and Bryant, 1999).

The closest large earthquakes occurred 16 miles east at Mare Island in 1898 and 21 miles south in San Francisco in 1906.

Regional Geology

The project area is located in the foothills, at the south end of the City of Novato, in an area underlain by rocks of the Franciscan Complex. This Mesozoic rock group is composed of weakly to strongly metamorphosed greywacke (sandstone), siltstone, shale, limestone, basalt, serpentinite, chert, and other rocks formed from Jurassic oceanic crust and pelagic (deep sea) deposits. Also included in the formation are overlying Late Jurassic to Late Cretaceous sedimentary deposits. High-pressure and low-temperature metamorphic mineral assemblages are common in the Franciscan complex, but there are also high-grade metamorphic blocks surrounded by sheared lightly metamorphosed shale.

Regional geology is shown on the Geologic Map of Marin County (USGS, 2000) included in the Fugro West study (2005) (see Appendix C, Figure C-1). The majority of the project area is mapped as Quaternary Alluvium, with Franciscan sandstone and shale and sandstone on the uplands. Franciscan complex melange and landslides are mapped to the southwest.

PROJECT SITE

Site Overview and Topography

The Indian Valley campus was constructed in the 1970s on 330 acres of the former Pacheco Ranch. The major drainage, Ignacio Creek (previously Arroyo San Jose), runs the length of the campus from west to east in an incised channel. Most of the campus buildings are south of the main creek channel, while parking and athletic areas are to the north. An additional, deeply incised

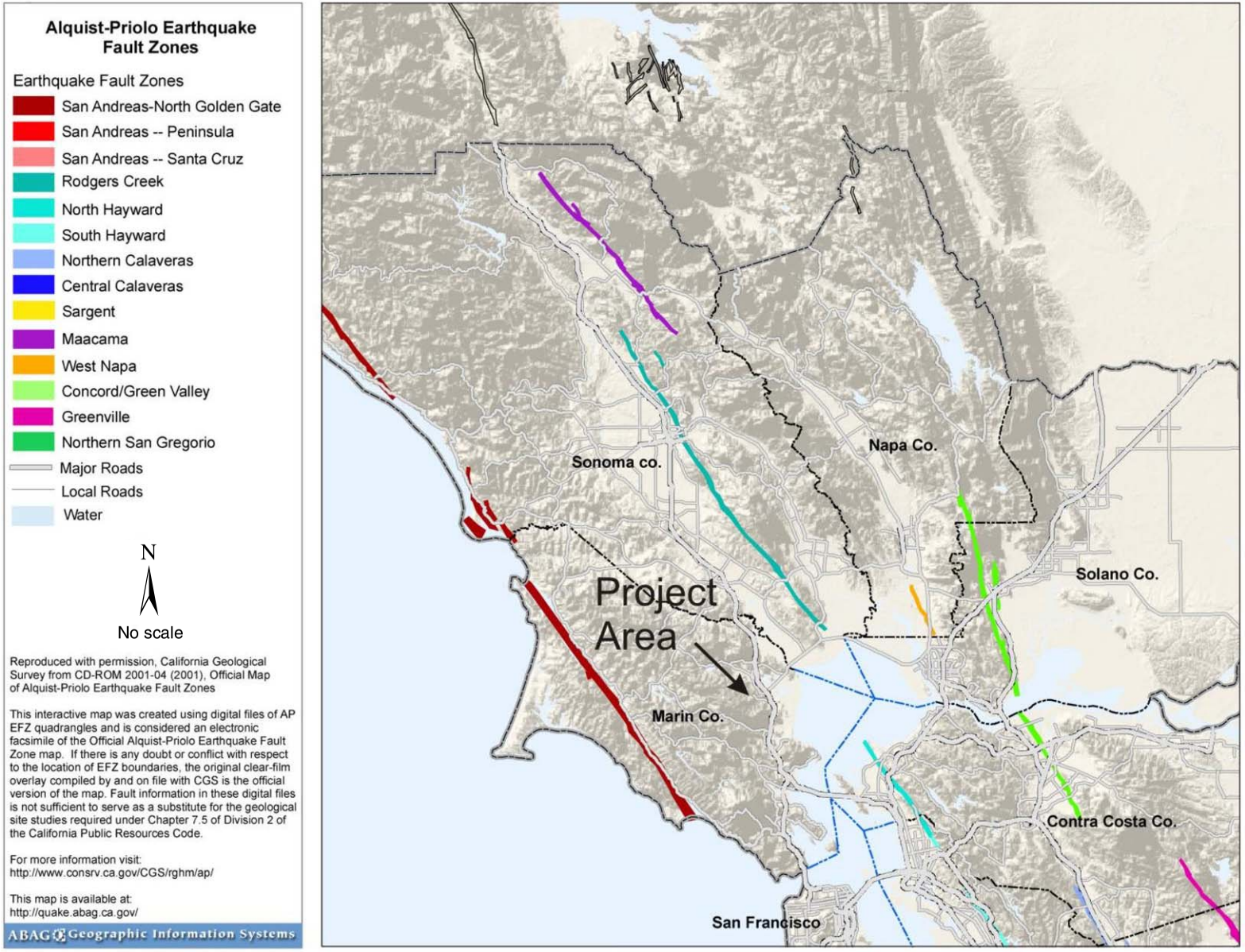


Figure 4.2-1

SOURCE: ABAG, 2007

LOCAL EARTHQUAKE FAULT ZONES: INDIAN VALLEY CAMPUS

tributary drainage channel flows south to north through the campus to join Ignacio Creek. Six bridges cross Ignacio Creek, while two bridges connect the east and west sides of the smaller drainage. Elevations at the main campus area range from 151 feet in the east to 220 feet in the west. The undeveloped surrounding woodland and grassland hillslopes rise from 220 to 450 feet in the north and 730 feet in the south. Residential areas are located less than a tenth of a mile from the campus' easterly parking lot.

Site Geology and Soils

USGS geologic maps of the Indian Valley area indicate that the campus is located on variable thicknesses of Quaternary alluvial deposits. Soils on hills and occurring through the campus and along the creek consist primarily of naturally occurring fine, mixed clay and sandy loams.

Two soil types are present: the Tocaloma Saurin Bonnydoon Association, and Xerorthents – Urban Land (U). The Tocaloma and Saurin series consist of moderately deep, well-drained soils that formed in material weathered from sandstone and shale. Tocaloma and Saurin soils are on hills and have slopes of 2 to 75 percent. Basically, they are sandy and clay loams that encounter strongly weathered, fractured sandstone at approximately 40 inches depth or less. The Bonnydoon component is found in the northern part of the Ignacio Creek watershed. The Bonnydoon series differs from the Tocaloma and Saurin series in that it consists of shallow, somewhat excessively drained soils, and is found on slightly steeper slopes of 5 to 85 percent. The Bonnydoon series is a loam over white to yellowish-brown, fine-grained, weathered and fractured sandstone. The upper horizons of the Tocaloma Saurin Bonnydoon Association generally consist of moist loams, fine to very fine roots, and fine to very fine interstitial pores. Pebbles comprise up to 40 percent of the B horizon in the Tocaloma series, and 10 percent of the B horizon in the Saurin series; gravel ranges from 5 to 15 percent throughout the Bonnydoon profile. The Xerorthents type follows the drainage of Ignacio Creek, and is used to describe the highly variable, disturbed flatlands.

Project Area Landsliding and Slope Instability

The majority of the Indian Valley campus property is located in the relatively flat, stable areas of the valley bottom. Landslide crowns are located 2 miles to the southwest along the perimeter road at the southern end of the campus, at the base of north-facing slopes (Fugro West, Inc., 2005).

Ground shaking from a seismic event can cause slope failure, rockfall, and debris flows. Most of the developed portion of the site is distant from any slopes that could be unstable. However, portions of the site that are adjacent to steeply sloped creek channels could fail under seismic shaking.

Primary Seismic Hazards – Surface Fault Rupture

A number of active and potentially active faults are present in the region (see Figure 4.2-1). According to criteria of the State of California Geological Survey (CGS, 2006), active faults are those that have experienced either historic or documented surface fault rupture within the last 11,000 years. The Alquist-Priolo Earthquake Fault Zoning Act of 1972 initiated a program of mapping active and potentially active faults. According to the program, active faults must be zoned and development projects within the Earthquake Fault Zones investigated to establish the location and age of any faulting across the development site. Active and potentially active faults in Marin County have undergone extensive investigation in the past. The Association of Bay Area Governments (ABAG) has summarized results from many of these studies to quantify the potential impact to certain areas, while the California Geological Survey has established Earthquake Fault Zone (EFZ) boundaries. According to these maps, the Indian Valley campus is not located within an EFZ. No faults zoned as active by the State of California are mapped at the project site and the site does not include any areas mapped as an Earthquake Fault Zone under the Alquist-Priolo Earthquake Fault Zoning Act of 1972. The risk of surface fault rupture near the Indian Valley campus project is considered to be non-existent (ABAG, 2007a).

Cooper-Clark & Associates performed mapping studies, resistivity surveys, and magnetometer surveys of the area (Cooper-Clark & Associates, 1976). They concluded that an inactive fault passes through the project area. That data was not available for study, however, and subsequent studies and mapping by Rice et al. (1973) and the Geologic Hazards Study found no corroborating evidence to substantiate existence of that fault (Fugro West, Inc., 2005).

Probabilistic Seismic Hazard Assessment Design Basis Earthquake (DBE), with a 10-percent probability of being exceeded in 50 years, produces a 40- to 50-percent Peak Ground Acceleration for the project area (CGS, 2006) (see Appendix C, Figure C-2). Based on these findings, the Geologic Hazards Study concluded that, to evaluate individual buildings, a site-specific analysis would need to be conducted for each building, taking into account local soil conditions, and should determine both DBE ground motions and Upper Bound Earthquake (UBE, 10 percent probability of exceedance in 100 years) ground motions.

Secondary Seismic Hazards

The site will likely be subjected to strong seismic ground shaking during the life of the project.

Ground Shaking. The San Francisco Bay Area is a seismically active region and the site will likely be subjected to strong seismically induced ground shaking within the design life of the project. The site is located within Seismic Zone 4 of the California Building Code, which is considered the most seismically active zone.

According to the USGS Working Group on California Earthquake Probabilities (WGCEP), which assesses the probability of earthquakes in the San Francisco Bay region, there is a 62-percent probability that an earthquake of Richter

Magnitude 6.7 or greater will strike the area during the next 30 years (WGCEP, 2003).

The intensity of ground shaking will vary with the distance and magnitude of the earthquake causing the ground shaking. This ground shaking intensity has been predicted by the USGS and CGS for most of the Bay Area, including the project site, and is summarized on the ABAG website using the Modified Mercalli scale (Appendix C, Table C-1). The maximum intensity ground shaking expected to occur at the site would be a Modified Mercalli intensity level of VII to VIII (strong to very strong) in response to a major rupture along the San Andreas fault equivalent to the 1906 earthquake. A major rupture on the Rodgers Creek fault is also predicted to cause strong ground shaking (level VII), while a major earthquake on the Hayward fault or more distant faults is expected to cause moderate ground shaking of the site. Such ground shaking is not predicted to destroy well-built structures, but could badly damage or destroy unreinforced masonry or poorly built structures. Many structures are expected to suffer light to moderate damage should there be very strong ground shaking.

Peak ground accelerations for the site with a 10-percent probability of being exceeded in a 50-year period are estimated at 50 to 60 percent of the acceleration due to gravity (CGS, 2006). Actual ground motions resulting from ground acceleration may be amplified or dampened depending on the underlying geologic materials. Deep soft soils tend to amplify waves whereas shallow soils overlying hard bedrock tends to dampen shaking intensity. Since shallow stiff soils occur over most of the project site, the amplification of seismic waves is expected to be minimal.

Seismically Induced Liquefaction. Liquefaction is the temporary transformation of saturated and very low cohesion or cohesionless soils into a viscous liquid as a result of ground shaking. According to ABAG, soils at the site have a moderate susceptibility to liquefaction (ABAG, 2007b). The soil borings of the Geologic Hazards Study also indicated soil conditions were encountered that would be only moderately likely to cause liquefaction. Based on examination of soil borings, the Geologic Hazards Study determined the susceptibility of the ground surface on the Indian Valley campus to liquefaction to be very low (Fugro West, Inc., 2005).

Seismically Induced Densification. Dynamic densification or ground subsidence can occur when dry, low-cohesion soils collapse as a result of seismic shaking. This is particularly true of unconsolidated sandy fill, or ground overlying hollow areas above caves, mines, or areas with excessive open pore space from groundwater removal. Since these conditions do not occur at the site, dynamic densification is not considered a hazard.

Seismically Induced Lurch Cracking and Ridgetop Fissuring and Shattering. Lurching is the sudden swaying, rolling, or spreading of the ground during a strong earthquake. Lurch cracking is the development of fissures or cracks on

slopes underlain by weak soils under high ground acceleration. The fill and alluvial soils on the campus may be susceptible to lurch cracking. Another related phenomenon is ridgetop fissuring and shattering, thought to be the result of intense amplification or focusing of seismic energy due to local topographic features. Linear fault-like fissures and shattering of surface soils on the crests of steep, narrow ridgelines were well-documented after the 1989 Loma Prieta and 1994 Northridge earthquakes. This phenomenon can result in severe structural damage, particularly if it occurs on high, narrow ridges flanked by slopes steeper than about 2.5:1 (horizontal to vertical). These topographic features do not exist on the Indian Valley campus; thus, ridgetop fissuring and shattering is not considered a hazard.

Unstable Geologic Unit or Soils. According the site geology map and soil logs, fill soils and alluvial sediments are present on the Indian Valley campus. Fill and alluvial soils may settle due to new building loads and may settle under design loading conditions resulting in differential settlement of structures. Expansive soils such as clays can increase and decrease in volume, especially with moisture content changes, and are often present in fluvial environment depositional zones. Campus geology as indicated in the site geologic maps does not include expansive clays. However, site soil borings have found soils of medium expansive soils in the Pomo Cluster.

Structural Condition of Existing Buildings as Related to Seismic Events

Degenkolb Engineers performed an ASCE 31: Seismic Evaluation of Existing Buildings to assess the structural and non-structural "life safety" of the campus buildings (Degenkolb Engineers, 2006). The assessment included a Tier 1 screening to identify buildings that are compliant, and a Tier 2 evaluation of the potential seismic deficiencies for the remaining buildings. ASCE 31 contains no classification for the campus' wood-framed structures with cantilevered columns. For these buildings, the 2001 California Building Code provisions were applied. The evaluation found that the structures meet the life safety performance objectives found in ASCE 31. However, the structural recommendations of the report called for a detailed examination and repair schedule for the gluelam beams that have deteriorated due to weather exposure, as well as an evaluation of the free standing walkways lacking longitudinal seismic bracing at the Ohlone and Miwok clusters (Degenkolb Engineers, 2006). Bracing was also recommended for numerous non-structural elements such as lighting, heating, storage, and wall partitions throughout the campus.

REGULATORY SETTING

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed by the California Legislature in 1972 to mitigate the hazard to structures from surface faulting.

The Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. Local agencies must regulate most development in fault zones established by the State Geologist. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, the city or county with jurisdiction must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults.

California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (California Public Resources Code Sections 2690-2699.6) addresses seismic hazards other than surface rupture, such as liquefaction and seismically induced landslides. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

California Building Code

The California Building Code (CBC) has been adopted by most jurisdictions in California to oversee construction. The CBC defines four Seismic Zones in California, which are ranked according to their seismic hazard potential. Zone 1 has the least seismic potential and Zone 4 has the highest seismic potential. The Bay Area is located in Seismic Zone 4 and thus development is required to comply with all design standards applicable to Seismic Zone 4. The earthquake protection law (California Heath and Safety Code Section 19100 et seq.) requires that structures be designed to resist stresses produced by lateral forces caused by wind and earthquakes. Specific minimum standards for seismic safety and structural design to meet earthquake protection requirements are set forth in Chapter 16 of the CBC.

Novato Municipal Code and Division of State Architect

Chapter V (Development Standards) and Chapter VI (Excavations and Fills) of the Novato Municipal Code require submittal of plans to the City Engineer and Community Development Department. However, the College of Marin is exempt from local building codes. Instead, the Division of the State Architect (DSA) will review building plans to ensure compliance with the California Code.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

For the purposes of this Draft EIR, development of the project site would cause a significant geology or soils impact if the project would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to California Geological Survey Special Publication 42);
  - strong seismic ground shaking;
  - seismic-related ground failure, including liquefaction; or
  - landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse; or
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994 or most current edition), creating substantial risks to life or property.

For other criteria related to geology, soils, and seismicity (e.g., mineral resources or use of septic systems), the Initial Study completed for the project (see the CEQA Initial Study, Indian Valley campus on the College of Marin website) concluded that the project would have less-than-significant impacts.

LESS-THAN-SIGNIFICANT IMPACTS

The following impacts were identified in the Initial Study or by this EIR to be less than significant:

- Alteration or destruction of a unique geological feature. The Indian Valley campus does not contain any unique geological features.
- Surface fault rupture. According to the latest available maps, the Indian Valley campus is not located within an Alquist-Priolo Earthquake Fault Zone boundary. No faults zoned as active by the State of California are mapped at the project site. The Geologic Hazards Study (Fugro West, Inc., 2005) found that previous findings of a fault on the site could not be substantiated. Published geologic maps of the area show the nearest fault, the Rogers Creek fault, as lying approximately 9.8 miles northeast of the site, and the San Andreas fault lying 11 miles to the southwest (see Figure 4.2-1).

- Landslides. The Indian Valley campus is in an area where active landslides have been mapped. Older landslide scars and small-scale slides occur on slopes over 1,000 feet away from the current campus area. The perimeter road along the base of slope south of campus would be the only facility that could potentially be affected. This road is used as a secondary access. Since there are multiple ways to reach campus buildings, temporary closure of the perimeter road would not affect the safety of campus occupants.
- Unstable soils, lateral spreading, subsidence, or liquefaction. Liquefaction is the process by which saturated cohesionless soils lose shear strength during seismic ground shaking. Lateral spreading is the large displacement of surficial soil blocks as a result of subsurface liquefaction, usually over moderate slopes. Contraction of plastic soils may also result in subsidence. Based on soil mapping, previous soil borings by Cooper-Clark & Associates, and borings by Fugro West, Inc., no potentially liquefiable soils are present in the project area (Fugro West, Inc., 2005). Therefore, the potential for liquefaction, lateral spreading, and subsidence would be very low.

POTENTIALLY SIGNIFICANT IMPACTS

According to CEQA Guidelines, exposure of people or structures to major geological hazards is a significant adverse impact. The primary geologic hazards affecting the project site are strong seismic ground shaking. The basic criterion applied to the analysis of impacts is whether construction of the project would create, or be founded, on unstable geologic conditions that would last beyond the short-term construction period. This analysis of geological hazards is primarily based on the degree to which the site geology could produce hazards to people, structures, and the environment from earthquakes, fault rupture, landslides and other slope instabilities, expansion and compression of clay soils, and other geologic hazards.

Impact GEOLOGY-1: Strong shaking associated with an earthquake could damage existing and proposed structures at the Indian Valley campus. (PS)

The Indian Valley campus is located in the seismically active region of the San Francisco Bay Area and is within the effective proximity of active faults. The campus is likely to experience a strong seismic event during the lifetime of the Bond Spending Implementation Plan. Strong ground shaking at the campus would occur. This may cause impacts to existing and future buildings and structures. The existing buildings meet life safety performance objectives; however, new buildings and structures would need to be designed to withstand seismic ground shaking.

> *Mitigation Measure GEOLOGY-1a: The District shall complete a design-level Geotechnical Investigation Report prepared by a Registered Geotechnical Engineer and Structural Design Plans as prepared by a*

Registered Structural Engineer for all new campus construction. Proper foundation and structural engineering and construction shall be performed in accordance with the recommendations of a Registered Geotechnical Engineer and a Registered Structural Engineer.

Mitigation Measure GEOLOGY-1b: All new buildings and structures shall comply with the California Building Code and Uniform Building Code and compliance shall be verified by the California Division of the State Architect (DSA) in the review of building plans.[1] Incorporation of seismic construction standards would reduce the potential for catastrophic effects of ground shaking such as complete structural failure to an acceptable standard, but would not entirely eliminate the hazard of seismically induced ground shaking.

Implementation of the above measures would reduce impacts from strong seismic ground shaking to a less-than-significant level. (LTS)

Impact GEOLOGY-2: Soil erosion or the loss of topsoil could occur during construction, particularly during storms. (PS)

The Implementation Plan would involve demolition of existing pavement and construction of new buildings and structures on the campus. Bare, erosive soils would be exposed during the excavation and grading for construction of new buildings and structures. Temporary stockpiles of loose soil may be created. The exposed soils would be subject to erosion during winter storm events. Grading would disturb site soils, potentially leading to impacts to Ignacio Creek. This would be a potentially significant impact during and following site construction activities. The project does not propose to create slopes greater than 3 horizontal to 1 vertical feet, and would not increase erosion due to slope failure.

Mitigation Measure GEOLOGY-2: The District shall prepare an Erosion Control and Storm Water Pollution Prevention Plan prior to the onset of demolition, site grading, or construction. Please see Section 4.4, Hydrology and Water Quality, for impacts and mitigation measures for construction-related storm runoff. With implementation of the standard control measures therein, impacts from substantial soil erosion or the loss of topsoil would be reduced to less-than-significant levels. (LTS)

Impact GEOLOGY-3: Expansive soils could affect foundations and other building elements associated with adoption of the Bond Spending Implementation Plan. (PS)

[1] The DSA provides design and construction oversight for K-12 schools and community colleges, similar to how local building departments provide such oversight for other types of development.

The Fugro West, Inc., 2005 study found clayey soils of low to medium potential for expansion underlying the project site, specifically in Parking Lot 5. Soils could be subject to changes in volume due to changes in moisture content, which can affect building foundations, roadways, walkways, parking, and other subsurface structures.

> *Mitigation Measure GEOLOGY-3: The District shall design and construct all new structures in accordance with geotechnical investigation recommendations (see Mitigation Measure GEOLOGY-1a), including recommended mitigation measures for expansive clay soils. Potential measures for control of expansive clay soils include the following:*
>
> - *Use of deeper foundations than normal.*
> - *Use of non-expansive layer under floor slabs and pavements.*
> - *Treating site soils with lime to reduce the expansion potential and increase the strength.*
> - *Additional reinforcing for slabs and walkways.*
> - *Grading around structures to assure positive drainage away from structures.*
>
> *The District's compliance with the above mitigation measure would reduce the impact of potentially expansive soils to a less-than-significant level. (LTS)*

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4.3 BIOLOGICAL RESOURCES

INTRODUCTION

This section of the EIR provides a summary of the biological resources on the Indian Valley campus and an assessment of the potential impacts of the proposed Bond Spending Implementation Plan. Section C.11, Biological Resources, of the *Background Report* provides a detailed description of the biological and potential jurisdictional wetlands on the Indian Valley campus and the regulatory framework related to the protection of sensitive resources such as jurisdictional wetlands, special-status species, and sensitive natural communities (Marin Community College District, 2006a). Information from the *Background Report* is summarized below, together with an analysis of the potential impacts of proposed improvements.

Biological resources were identified through the review of available information and surveys of the Indian Valley campus. Field reconnaissance surveys were conducted by the EIR biologist on August 11, October 18, and November 21, 2005 to confirm mapping of vegetative cover types, to determine wildlife habitat and any important resources, and to determine the potential for occurrence of special-status species. Systematic surveys were conducted by a qualified botanist on March 23 and 27, May 19, and July 17, 2006 to determine whether any special-status plant species occur within portions of the campus property where future modifications may occur as part of the Bond Spending Implementation Plan. No protocol surveys for special-status animal species such as the federally listed threatened California red-legged frog were conducted as part of this *Background Report* because of the marginal habitat conditions on the Indian Valley campus. Supplemental field work was conducted on August 28, 2006 as part of a detailed wetland delineation prepared using methodology from the U.S. Army Corps of Engineers (Corps) *Wetland Delineation Manual* (Environmental Laboratory, 1987).

ENVIRONMENTAL SETTING

VEGETATION AND WILDLIFE

The Indian Valley campus consists of largely undeveloped land in the upper watershed of Arroyo San Jose, in the southwestern area of Novato. When first developed, the main campus was sensitively sited along Ignacio Creek, the main tributary to Arroyo San Jose, and set among the mature native trees. Development associated with existing college improvements (structures, parking lots, roadways and pathways, ball fields and irrigated turf areas), has replaced native vegetative cover, primarily on the valley floor along Ignacio Creek. Remaining natural areas support a mosaic of mixed hardwood woodlands, oak

savanna, non-native grassland and successional brushfields, and riparian woodland and scrub along the Arroyo San Jose tributaries. Figure 4.3-1 shows the general extent of the various vegetation types and potential jurisdictional waters on the site. Existing vegetative cover and associated wildlife habitats are summarized below.

Mixed Oak Woodland

The majority of the Indian Valley campus supports a cover of dense to open woodlands and savanna, dominated by several species of oak and other native tree species. Common tree species include black oak (*Quercus kelloggii*), valley oak (*Q. lobata*), coast live oak (*Q. agrifolia*), blue oak (*Q. douglasii*), California bay (*Umbellularia californica*), and madrone (*Arbutus menziesii*). Where the woodland canopy is closed, understory vegetation is generally sparse, composed of poison oak (*Toxicodendron diversilobum*), coyote brush (*Baccharis pilularis*), toyon (*Heteromeles arbutifolia*) and other shrub and groundcover species. Where the canopy is open or sparse, the understory is dominated by a relatively dense cover of non-native grassland species.

When first developed, the main campus was sensitively sited along Ignacio Creek, the main tributary to Arroyo San Jose, and set among the mature native trees.

Sudden Oak Death (SOD), a disease of increasing concern in Marin County and other parts of coastal California, is affecting oaks and other species in the woodland, with a noticeable decline and loss of a number of coast live oaks at the Indian Valley campus. The Fire Mitigation Program implemented in the fall of 2006 removed a number of coast live oaks that were dead or in severe decline because of SOD and related conditions.

The mature woodlands provide denning, nesting, and foraging opportunities for numerous species of small mammals, reptiles, and birds. Mammals and reptiles found in the woodlands include deer mouse, woodrat, stripped skunk, grey squirrel, western skink, newts, ensatina, ring-necked snake, and rubber boa. Larger mammals such as black-tailed deer and predatory species such as grey fox, mountain lion, and coyote most likely forage throughout the undeveloped woodlands and open savanna. The trees provide nesting cavities, perching and foraging opportunities, and nesting substrate for numerous species of birds, including jays, woodpeckers, kinglets, and bushtits. Several species of raptors use the mature trees for roosting and possibly nesting with foraging in the understory and areas of open grassland. These raptor species include red-tailed hawk, Cooper's hawk, white-tailed kite, turkey vulture, great-horned owl, and barn owl. The understory of the woodlands and savanna on the Indian Valley campus is used by species associated with grasslands, or species common in developed areas where buildings and other improvements are surrounding the remaining trees.

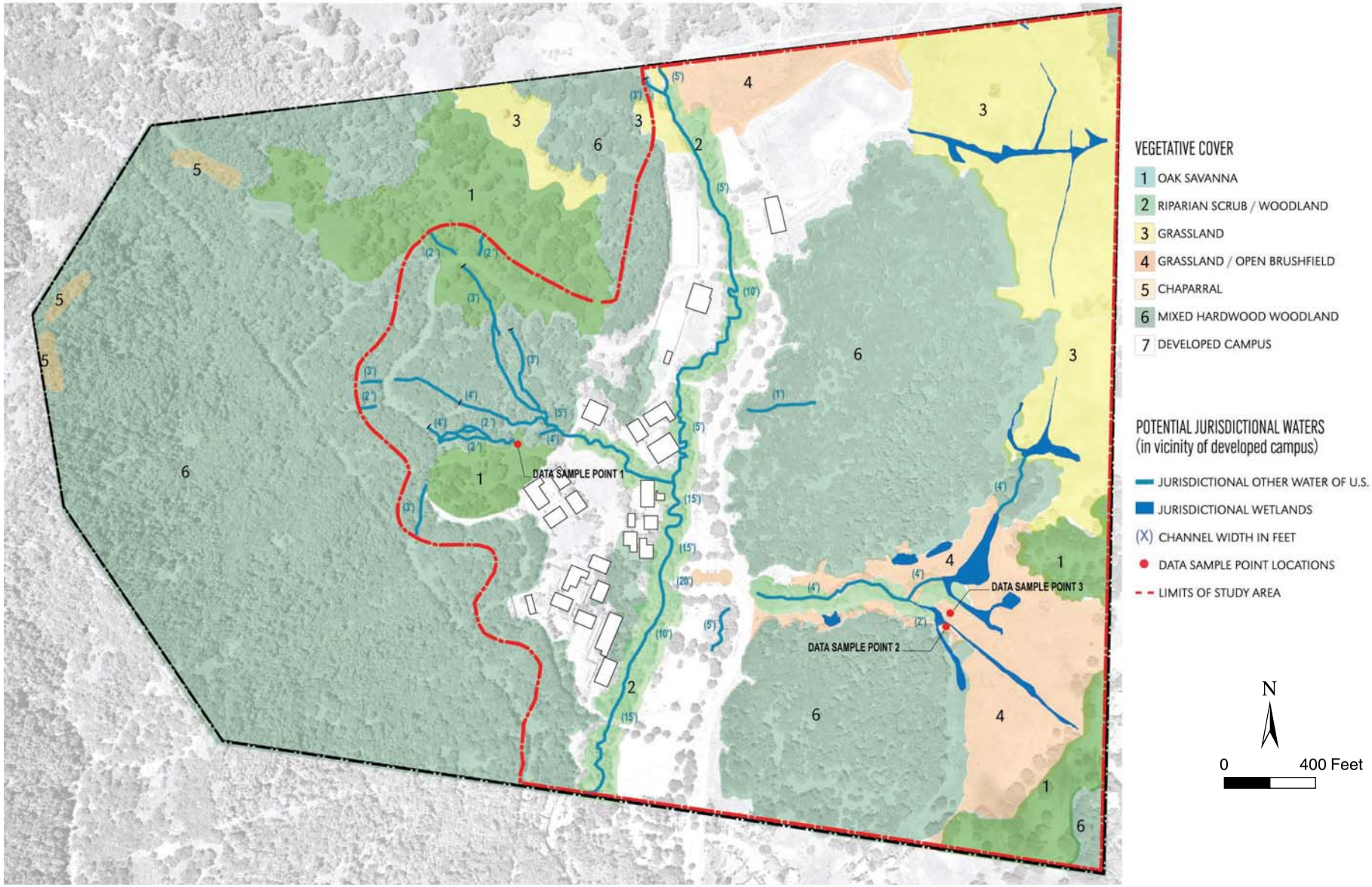

Figure 4.3-1

SOURCE: RHAA and Environmental Collaborative, 2007

VEGETATIVE COVER AND BIOLOGICAL RESOURCES: INDIAN VALLEY CAMPUS

Riparian Woodland and Scrub

Riparian woodland and scrub occur along Ignacio Creek and the main tributaries, dominated by several species of native trees and shrubs. Native tree species along the riparian corridors include coast live oak, California bay, California buckeye (*Aesculus californica*), and valley oak. In some locations, willow (*Salix lasiolepis*) forms dense thickets of shrubs and small trees. Understory species are generally sparse, with a few species of ferns, honeysuckle (*Lonicera* sp.), and poison oak growing along the creek banks. The highly invasive, non-native Himalayan blackberry (*Rubus discolor*) forms impenetrable thickets along some segments of the corridor. Severe downcutting of the channel bottom and erosion of channel banks are occurring along some reaches of the creek, undermining and toppling trees in a number of locations.

Although the limited understory and areas of severe erosion limit the overall wildlife habitat values, the riparian corridor continues to provide important wildlife resources to a wide variety of species. Surface water is available for aquatic-dependent organisms and serves as a source of drinking water for terrestrial mammals and birds. Some reaches of the creek appear to be at least intermittent in nature, providing pools of surface water during the dry, summer months. The creek channel most likely serves as a movement corridor for aquatic and terrestrial species. Wildlife dependent on the cover provided by the riparian woodland and scrub include black-tailed deer, black-tailed jackrabbit, grey and red fox, rufous-sided towhee, scrub jay, flycatchers, warblers, aquatic garter snake, western toad, and possibly other amphibians. No evidence of any fish was observed during field reconnaissance surveys, and large structures downstream and on the Indian Valley campus prevent migration by anadromous fish into the upper watershed.

Grasslands

Past grazing activities and fire suppression have contributed to changes in the grasslands on the site, eliminating most of the native grasslands and leading to the spread of brushy chaparral and scrub cover on the site. The remaining open areas on the Indian Valley campus support a cover dominated by non-native grasses and forbs. Seasonal seeps are scattered through the grasslands, particularly in the northern portion of the Indian Valley campus, supporting species indicative of transitional and wetland habitat. Species composition in the grasslands varies, depending on the extent of past and ongoing disturbance, nature of underlying soils, depth to groundwater, and frequency and duration of soil saturation. Common species are generally not native and include slender oats (*Avena barbata*), soft brome (*Bromus hordeaceus*), bur clover (*Medicago polymorpha*), storksbill filaree (*Erodium cirutarium*), and common vetch (*Vicia sativa* ssp. *sativa*).

Native coyote brush is spreading into the grasslands in a number of locations, forming large brushfields. Many of these brushfields were removed as part of the

Fire Mitigation Program. Grasslands along the fringe of the improved main campus are dominated by ruderal (weedy) species such as wild radish (*Raphanus sativa*), sweet fennel (*Foeniculum vulgare*), and bull thistle (*Cirsium vulgare*).

Highly invasive species such as Sweet fennel, French broom (*Genista monspessulana*), and Scotch broom (*Cytisus scoparius*) are spreading along road margins and disturbed areas near the main campus.

The locations mapped as "potential wetlands" in Figure 4.3-1 are generally seasonal seeps dominated by a cover of native California oatgrass (*Danthonia* sp.) and iris-leaf rush (*Juncus xiphioides*). These areas appear to function as grasslands and brushlands in drier periods, and then become saturated during the winter and spring for a long enough time into the growing season that wetland indicator species are present. These potential wetland areas are difficult to characterize given the overstory of brush and seasonal fluctuation in functioning as both wetlands and grasslands.

The grasslands provide important foraging opportunities for numerous small mammals, passerine birds, and insects, such as California vole, pocket gopher, black-tailed jackrabbit, western meadowlark, western kingbird, savannah sparrow, white-crowned sparrow, and American goldfinch. These species provide abundant prey opportunities for predatory birds, mammals, and reptiles, such as gopher snake, raccoon, stripped skunk, grey and red fox, red-tailed hawk, American kestrel, great-horned owl, and barn owl.

Developed Areas/Ornamental Landscaping

Buildings, roadways, parking lots, other impervious surfaces, turf, and ornamental landscaping occupy the developed portion of the Indian Valley campus. Existing landscaping consists of a mixture of native and non-native trees, shrubs, and groundcovers. Planted trees and shrubs include native coast live oak and coast redwood (*Sequoia sempervirens*), and non-native pines, acacias, bottlebrush, and oleander, among others. Planted turf covers much of the ground around the existing buildings in the campus center and the large playfield at the western edge of the valley floor. As noted above, native trees, primarily mature oaks and bays, were retained throughout the improved campus grounds when the campus was first developed. Several highly invasive plant species occur within the improved campus grounds and are spreading through undeveloped portions of the Indian Valley campus. These include Himalayan blackberry and periwinkle (*Vinca major*), which is spreading along the creek channels, and fennel and broom, which are spreading along roadways and fire trails.

The developed portion of the site generally has less wildlife habitat value, compared to the surrounding remaining natural areas. Impervious surfaces, turf, and routine maintenance limit protective cover and foraging opportunities.

Wildlife in these developed areas are typically more acclimated to human activity and include species common in suburban habitats such as scrub jay, brown towhee, mourning dove, house finch, house sparrow, American robin, mockingbird, Norway rat, and house mouse. The mature trees do provide roosting and potential nesting substrate for numerous species of birds, although no raptor nests were observed during the field reconnaissance surveys. Bats are known to roost under sheathing installed over support beams of many of the buildings on the campus, and attempts to exclude their access because of concerns over health and safety issues have been only partly successful.

SPECIAL-STATUS SPECIES

Special-status species are plants and animals that are legally protected under the State and/or federal Endangered Species Acts or other regulations, as well as other species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat. Species with legal protection under the federal and State Endangered Species Acts often represent major constraints to development, particularly when they are wide-ranging or highly sensitive to habitat disturbance and where proposed development would result in a "take" of these species. "Take" as defined by the federal Endangered Species Act (ESA) means to "harass, harm, pursue, hunt, shoot, kill, trap, capture, or collect" a threatened or endangered species. "Harm" is further defined by the U.S. Fish and Wildlife Service (USFWS) to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modifications or degradation. The California Department of Fish and Game (CDFG) also considers the loss of listed species habitat as "take," although this policy lacks statutory authority and case law support under the California Endangered Species Act (CESA).

The California Natural Diversity Data Base (CNDDB) records and other information sources indicate that a number of special-status plant and animal species occur in the Novato vicinity (CDFG, 2005, 2006a, and 2006b). A general occurrence record for only one species, Mt. Tamalpais jewel-flower (*Streptanthus glandulosus* ssp. *pulchellus*), extends over the southern edge of the campus property. Numerous other special-status plant and animal species have varying potentials for occurrence on the site, as discussed below.

Special-Status Plant Species

Based on the CNDDB records, the *Inventory of Rare and Endangered Plants of California* (CNPS, 2001), and other information sources, a number of special-status plant species have the potential to occur in the remaining undeveloped lands of the site. Species of particular concern reported from within 5 miles of the campus property are all maintained on the CNPS *Inventory* as List 1B species (rare and endangered in California and elsewhere), and include, among

others, Mount Tamalpais jewel-flower, Napa false indigo (*Amorpha californica* var. *napensis*), bent-flowered fiddleneck (*Amsinkia lunaris*), Mt. Tamalpais manzanita (*Arctostaphylos hookeri* ssp. *montana*), fragrant fritillary (*Fritillaria liliacea*), Baker's navarretia (*Navarretia leucocephala* ssp. *bakeri*), Marin County navarretia (*Navarretia rosulata*), and Marin checkerbloom (*Sidalcea hickmanii* ssp. *virisdis*).

No special-status plant species are suspected to occur in the vicinity of the main campus.

No special-status plant species have been reported on the site, and none were detected during systematic detailed surveys conducted in spring and summer of 2006. Given the results of the detailed surveys, no special-status plant species are suspected to occur in the vicinity of the main campus or locations where future improvements are currently being considered as part of the Bond Spending Implementation Plan.

Special-Status Animal Species

A number of bird, mammal, reptile, fish, and invertebrate species with special-status are known or suspected from the Novato vicinity and northeastern Marin County area. These include:

- Cooper's hawk (*Accipiter cooperi*)
- Sharp-shinned hawk (*Accipiter striatus*)
- Golden eagle (*Aquila chrysaetos*)
- Western burrowing owl (*Athene cunicularia*)
- Tricolored blackbird (*Agelaius tricolor*)
- Northern harrier (*Circus cyaneus*)
- White-tailed kite (*Elanus caeruleus*)
- Prairie falcon (*Falco mexicanus*)
- American peregrine falcon (*Falco peregrinus anatum*)
- Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)
- Loggerhead shrike (*Lanius ludovicianus*)
- California black rail (*Laterallus jamaicensis coturniculus*)
- Double-crested cormorant (*Phalacrocorax auritus*)
- California clapper rail (*Rallus longirostris obsoletus*)
- California tiger salamander (*Ambystoma californiense*)
- Northwestern pond turtle (*Clemmys marmorata*)
- California red-legged frog (*Rana aurora draytonii*)
- Foothill yellow-legged frog (*Rana boylii*)
- Delta smelt (*Hypomesus transpacificus*)
- Coho salmon (*Oncorhynchus kisutch*)
- Steelhead (*Oncorhynchus mykiss*)
- Sacramento splittail (*Pognichthys macrolepidotus*)
- California freshwater shrimp (*Syncaris pacifica*)
- Pallid bat (*Antrozous pallidus*)
- Yuma myosits (*Myotis yumanensis*)
- Salt marsh harvest mouse (*Reithrodontomys raviventris*)

Based on the field reconnaissance surveys and habitat suitability analysis, suitable habitat for many of these species is absent from the site, particularly for species associated with salt marsh and open water habitat not found on the site such as salt marsh harvest mouse, California clapper rail, California black rail, common yellowthroat, Delta smelt and Sacramento splittail.

Table 4.3-1 provides information on the name, status, preferred habitat, and potential for occurrence of those species considered to have some potential for occurrence on the Indian Valley campus. Most of the special-status animal species known or suspected from the Indian Valley campus are bird species that may occasionally forage in the vicinity but for which no evidence of nesting was observed during the field reconnaissance surveys. These include western burrowing owl, Cooper's hawk, loggerhead shrike, northern harrier, sharp-shinned hawk, tricolored blackbird, and white-tailed kite. Information on the habitat characteristics and potential for occurrence of these species on the Indian Valley campus is summarized below.

It should be noted that there remains a potential for occasional use of the Indian Valley campus vicinity by other species of concern as well, such as golden eagle, prairie falcon, peregrine falcon, ferruginous hawk (*Buteo regalis*), Aleutian Canada goose (*Branta canadensis leucopareia*), and merlin (*Falco columbarius*). This usage, however, would be limited to occasional wintering activity by migratory bird species or possible occasional foraging activity by species for which essential breeding habitat is absent from the Indian Valley campus.

Coho Salmon and Steelhead Trout. Coho salmon and steelhead trout are both listed as threatened under the federal ESA and are anadromous, spawning in coastal streams and rivers and then migrating to and maturing in the ocean. Timber harvest activities, overgrazing, gravel mining operations, channel modifications and removal of riparian vegetation, flood control and hydroelectric facilities, and secondary water quality degradation have all contributed to a decline of these species. Both species are known from the San Pablo Bay and tributary creeks, although there are no records of either species from Arroyo San Jose. The intermittent nature of the main tributary across the site, together with the existence of major drop structures, precludes the existence of either species in the upper watershed, even seasonally when flows are higher. A number of in-channel barriers in the lower reaches of Arroyo San Jose currently preclude migration of these species into the upper watershed, including the Indian Valley campus.

California Red-legged Frog. This species is listed as threatened by the USFWS and is recognized as a California Species of Concern (CSC) by the CDFG. It typically occurs in aquatic habitat of streams and ponds, but can disperse

Table 4.3-1 Special-Status Animal Species Known or Suspected to Occur in the Region

Species	Status Federal/State	Preferred Habitat Type (Potential Occurrence at Site)
Invertebrates		
California freshwater shrimp	FE/SE	Permanent streams with pools (unlikely – marginal aquatic habitat present in main drainage)
Amphibians/Reptiles/Fish		
California tiger salamander	FT/CSC, CP	Vernal pools, ponds, streams and adjacent grassland (unlikely – suitable breeding habitat absent/not known from Marin County)
California red-legged frog	FT/CSC, CP	Ponds, streams, adjacent riparian and upland (unlikely – marginal aquatic habitat along main drainage)
Foothill yellow-legged frog	FSC/CSC, CP	Permanent streams with cobbles (unlikely – suitable permanent aquatic habitat absent)
Northwestern pond turtle	FSC/CSC, CP	Pond, rivers, and streams (possible – marginally suitable habitat along main drainage and in off-site upstream reservoir)
Steelhead	FT/-	Open water of Bay and Delta, tributary rivers and streams (unlikely – marginally suitable habitat along main drainage)
Coho salmon	FE/SE	Open water of Bay and Delta, tributary rivers and streams (unlikely – marginally suitable habitat along main drainage)
Birds		
White-tailed kite	-/CP	Grassland (possible – no known nesting reported or observed)
Burrowing owl	FSC/CSC	Grassland (possible – no known nesting reported or observed)
Cooper's hawk	-/CSC	Riparian/grassland (possible – no known nesting reported or observed)
Golden eagle	-/CSC,CP	Open grassland and savanna (unlikely – suitable nesting habitat absent/occasional foraging possible)
Loggerhead shrike	FSC/CSC	Grassland and scrub (possible – no known nesting reported or observed)
Northern harrier	-/CSC	Grassland (possible – no known nesting reported or observed)
Peregrine falcon	De-listed/ SE,CP	Open water and grassland (unlikely – suitable nesting habitat absent/occasional foraging possible)
Prairie falcon	-/CSC	Grassland (unlikely – suitable nesting habitat absent/occasional foraging possible)
Sharp-shinned hawk	-/CSC	Riparian and grassland (possible – no known nesting reported or observed)

Table 4.3-1 *continued*

Species	Status Federal/State	Preferred Habitat Type (Potential Occurrence at Site)
Tricolored blackbird	FSC/CSC	Freshwater marsh and fields (unlikely – no known nesting reported or observed)
Mammals		
Pallid bat	-/CSC	Roosts under bridges and in caves, mines, and buildings (unlikely – suitable forage habitat present but roost locations unlikely)
Yuma myotis	FSC/CSC	Roosts in buildings, trees mines, caves, bridges (unlikely – suitable foraging habitat present but roost locations unlikely)

Federal Status:
- FE = Listed as "endangered" under the federal Endangered Species Act (ESA).
- FT = Listed as "threatened" under the federal ESA.
- C = A candidate species under review for federal listing. Includes species for which the USFWS currently has sufficient biological information to support listing endangered or threatened.
- FSC = Federal Special Concern species.

State Status:
- SE = Listed as "endangered" under the California Endangered Species Act (ESA).
- ST = Listed as "threatened" under the California ESA.
- CP = California fully protected or protected species; individual may not be possessed or taken at any time.
- CSC = California Special Concern species identified by the California Department of Fish and Game (CDFG); taxa have no formal legal protection but nest sites and communal roosts are generally recognized as significant biotic features.

Potential Occurrence On Site:
- Known = Reported or observed.
- Possible = Suitable habitat present, although no individuals observed or reported.
- Unlikely = Suitable habitat either marginal or absent, and likelihood of occurrence on the site is low to non-existent.

Source: Environmental Collaborative, 2007b.

considerable distances in search of breeding and aestivation[1] sites. Continued loss of upland dispersal habitat, fragmentation of remaining breeding locations, competition and predation by bullfrogs, and degradation of aquatic habitat are primary concerns regarding protection and recovery of this species. This species has historically been reported throughout Marin County, although no occurrences are known from the Arroyo San Jose watershed or southern Novato vicinity. The main channel of Ignacio Creek on the site is at best marginal dispersal habitat for this species due to the intermittent nature and absence of permanent pools, lack of refuge locations from predators and protective cover, and likelihood of heavy predation by raccoons. There is a remote possibility that if individuals are

[1] Aestivation refers to generally low activity periods, typically during winter cold or summer heat.

present in the watershed but have been undetected in the past, they may occasionally disperse along the channel in search of suitable breeding habitat.

Northwestern Pond Turtle. Northwestern pond turtle typically occurs in ponds and streams with permanent pools used as retreat habitat. Individuals are known to establish nests in protected uplands near aquatic habitat, sometimes several hundred feet from pools and ponds used for retreat. The absence of deep pools and the intermittent nature of the main drainage limit the likelihood that pond turtles are permanent residents on the site, but it is possible that individuals may occasionally move along the channel in search of suitable habitat, such as Pacheco Pond in the open space lands just southwest of the main campus.

Bird Species. There is a possibility that one or more special-status bird species could establish nests on the Indian Valley campus, which would be protected under the Migratory Bird Treaty Act when in active use. No nests were observed during the field reconnaissance surveys, but no detailed surveys were conducted and nests could also be established in the future. This includes nesting by white-tailed kite, northern harrier, burrowing owl, Cooper's hawk, sharp-shinned hawk, and loggerhead shrike. The mature trees also provide suitable nesting habitat for more common raptors, such as red-tailed hawk, great horned owl, and American kestrel. Additional detailed surveys would be necessary to confirm presence or absence of any nesting activity, and this could change in the future as nests are abandoned and new nests established.

Bats. Pallid bat and Yuma myotis are considered to possibly forage in the Indian Valley campus vicinity, but suitable roosting habitat is absent. Both of these species as well as more common bat species occur in a variety of habitats at lower elevations in California, and are known to roost in buildings, trees, mines, caves, bridges, and rock crevices. Bat roosting observed in the support structures of several of the buildings on the campus is believed to be by common colonial species, given the proximity to human activity.

California Freshwater Shrimp. California freshwater shrimp is known from several perennial streams in Marin, Sonoma, and Napa counties. This species has not been reported from the Arroyo San Jose watershed. Because the main drainage across the site is intermittent in nature, it is highly unlikely that this species is present.

JURISDICTIONAL WATERS

Wetlands are areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil.

Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. Technical

standards for delineating wetlands have been developed by the U.S. Army Corps of Engineers (Corps) and the USFWS, which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

As provided under Section 404 of the Clean Water Act, the Corps is responsible for regulating the discharge of fill material into waters of the United States. The term "waters" includes wetlands and non-wetland bodies of water that meet specific criteria as defined in the Code of Federal Regulations. In general, a permit must be obtained before fill can be placed in wetlands or other waters of the U.S. The type of permit depends on the amount of acreage and the purpose of the proposed fill, subject to discretion of the Corps.

On the State level, jurisdictional authority of the CDFG over wetland areas is established under Section 1600 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake without notifying the CDFG, incorporating necessary mitigation, and obtaining a Streambed Alteration Agreement. In addition, the State Regional Water Quality Control Board (RWQCB) is responsible for upholding state water quality standards. Pursuant to Section 401 of the Clean Water Act, projects that apply for a Corps permit for discharge of dredge or fill material, and projects that qualify for a Nationwide Permit must obtain water quality certification from the local RWQCB.

Based on the preliminary wetland delineation, potential jurisdictional waters in the project site vicinity consist of Ignacio Creek and tributary ephemeral drainages, together with a complex of seasonal wetlands, seeps, and springs in uplands on the site (see Figure 4.3-1). The estimated width of channel segments below the Ordinary High Water Mark (OHWM) is shown in Figure 4.3-1, together with the location of potential seasonal wetlands. The scattered seasonal wetlands and springs in the northern portion of the site are dominated by iris-leaved rush, penny-royal (*Mentha pulegium*), and California oat grass, which transition to the surrounding grassland habitat.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

The proposed project would have a significant impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-

status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or USFWS;
- Have a substantial adverse effect on federal protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marshes, vernal pools, coastal areas, etc.) through direct removal, filling, hydrological interruption or other means;
- Interfere substantially with movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any applicable local policies protecting biological resources; or
- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional or State habitat conservation plan.

LESS-THAN-SIGNIFICANT IMPACTS

The potential impacts of the proposed Bond Spending Implementation Plan on biological resources would generally be less than significant. No Habitat Conservation Plans have been adopted encompassing the Novato vicinity, and the project would therefore not conflict with any such plans. The Marin Community College District is exempt from local regulations, but the proposed improvements would not conflict with the goals and policies of the Novato General Plan or intent of relevant ordinances. Relevant ordinances include Waterway and Riparian Protection (Section 19.35 of the Zoning Code), Wetland Protection and Restoration (Section 19.36 of the Zoning Code), and Regulating Alteration or Removal of Trees on Private Property (Section 17-1 of the Zoning Code). The Ignacio Creek corridor does not qualify as a sensitive natural community type, although it is a regulated waters and any in-channel activity would require agency authorizations as discussed further below.

The proposed Bond Spending Implementation Plan would not substantially interfere with wildlife movement opportunities or impede the use of native wildlife nursery sites. Most of the Indian Valley campus would remain undeveloped, and new structures would be located in areas of existing development or existing parking areas. Improvements to Ignacio Creek would be limited to stabilization measures to protect existing bridge structures and to control severe erosion. Replacement of an existing in-channel crossing with a clear span pedestrian bridge is possible. These modifications would actually improve the habitat values of the riparian corridor, and adequate measures would be undertaken to minimize construction-related disturbance and possible inadvertent take of any special-status animal species, as discussed further below. Setbacks would be

provided from Ignacio Creek and mature native trees would generally be avoided, although specific language addressing this approach to development has not been stated as goals or guidelines in the proposed Design Guidelines (Marin Community College District, 2006b).

Outdoor lighting would include shrouds and other shielding as appropriate, and lighting along pedestrian corridors would be low-level lights to minimize disruption to surrounding residents and existing habitat. New landscaping would be provided around the perimeter of new structures, parking areas, and elsewhere. The proposed Design Guidelines include a goal that new plantings be native, drought-tolerant, and low maintenance, which would serve to improve the wildlife habitat value of landscaping.

POTENTIALLY SIGNIFICANT IMPACTS

In general, proposed development is not expected to have any significant adverse impacts on biological or wetland resources. These resources include special-status species and jurisdictional waters associated with Ignacio Creek and tributary drainages. However, there is a possibility that sensitive resources could be adversely affected during construction if careful controls are not followed. These controls would need to confirm absence of any special-status animal species that have a remote potential to occur within the creek channel, confirm absence of any nesting bird species in the vicinity of construction zones, and minimize disturbance within areas of jurisdictional waters and obtain agency authorization for any activities that would modify these areas. The possible inadvertent impacts on sensitive resources during project construction would be considered potentially significant impacts, as discussed further below.

Impact BIOLOGY-1: Adoption and implementation of the proposed Bond Spending Implementation Plan could affect a number of special-status animal species. (PS)

There is a remote possibility that implementation of the proposed Bond Spending Implementation Plan, and the related development and construction, may adversely affect a number of special-status species. This possible impact includes potential loss or disruption to raptor nesting activity and inadvertent take of several special-status animal species that have a remote potential for occurrence in the Ignacio Creek corridor.

Although essential habitat is absent on the Indian Valley campus, there is a remote possibility that several special-status animal species may occasionally disperse along the Ignacio Creek corridor. These include northwestern pond turtle, foothill yellow-legged frog, and possibly California red-legged frog. Although essential aquatic habitat for these species is absent on the site, it is possible they could disperse along this reach of Ignacio Creek. There is also a remote possibility that existing barriers to fish migration in the Arroyo San Jose watershed could be removed as part of some future habitat restoration effort, in

which case there would be a possibility that anadromous fish, particularly steelhead, could once again reach Ignacio Creek within the Indian Valley campus. Proposed improvements in or near the Ignacio Creek channel, such as the proposed stabilization measures to protect existing bridge structures and to control severe erosion, could result in the loss of individual special-status animal species if present in the construction area. Restrictions on the timing of any in-channel construction activities would reduce the likelihood of inadvertent take of these species. This impact would be considered potentially significant unless pre-construction surveys have been undertaken and adequate avoidance measures implemented, if required.

Loggerhead shrike and several species of raptors are known to forage on the Indian Valley campus, and construction could destroy nests or result in nest abandonment. No evidence of any nesting activity was observed near proposed facility improvements, and the likelihood of new nests being established is remote given the developed nature of the area. However, in the remote instance that nests are established in the future, tree and brush removal necessary to accommodate improvements could inadvertently result in the destruction of a nest in active use. Construction activities within about 300 feet of an active nest could also result in its abandonment, and any activities that result in the destruction or abandonment of an active nest would be a violation of the Migratory Bird Treaty Act. Pre-construction surveys would be necessary to ensure that no new nests are present and appropriate avoidance is provided until any young have fledged. This potential impact is considered potentially significant unless pre-construction surveys were undertaken and adequate avoidance measures implemented.

No populations of special-status plant species have been reported from the Indian Valley campus, or were observed during systematic surveys of the campus area. No such species are believed to occur in the vicinity of proposed improvements associated with the Bond Spending Implementation Plan. Given the absence of any populations, there would be no impact on special-status plant species.

> *Mitigation Measure BIOLOGY-1a: Prior to any in-channel construction activities in Ignacio Creek and the main tributary drainages, a pre-construction survey shall be conducted by a qualified biologist to confirm absence of any northwestern pond turtle, foothill yellow-legged frog, California red-legged frog, or steelhead within the construction zone. Details of the pre-construction and avoidance measures shall consist of the following:*
>
> *(1) A pre-construction survey shall be conducted no more than 15 days prior to initiation of construction within the creek channel.*
>
> *(2) Before any in-channel construction activities begin, a qualified biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include (a) handout of a*

brochure with a description and photographs of the species of concern and their remote potential for their occurrence in the creek corridor, (b) the general measures that are being implemented to ensure avoidance as they relate to the project, and (c) procedures to follow if construction personnel believe they have encountered one or more of these species, such that all work shall stop in the vicinity and the qualified biologist immediately contacted to verify the species and recommend appropriate actions before construction resumes.

(3) All fueling and maintenance of vehicles and other equipment, and staging areas, shall be located at least 50 feet from the creek channel to prevent any water quality degradation. All workers shall be informed of the importance of preventing spills and the appropriate measures to take should a spill occur. These issues shall be addressed in contract specifications.

(4) If any species of concern are encountered, either during the pre-construction survey or during construction, construction work shall stop and a Species Avoidance Program shall be prepared by a qualified biologist through consultation with trustee agencies. Appropriate construction restrictions shall be established based on recommendations of the qualified biologist to ensure that no inadvertent take occurs while the Species Avoidance Program is being prepared. If northwestern pond turtles or foothill yellow legged frog are encountered, the qualified biologist shall informally consult with the California Department of Fish and Game (CDFG). If California red-legged frog are encountered, the U.S. Fish and Wildlife Service (USFWS) shall be consulted on the appropriate methods to ensure avoidance of inadvertent take of this listed species. If steelhead are encountered, the National Marine Fisheries Service (NMFS) shall be consulted on the appropriate methods to insure avoidance of inadvertent take of this listed species.

(5) If required, the Species Avoidance Program shall define measures that serve to adequately avoid inadvertent loss of the species of concern during all aspects of project construction, including vegetation removal, any channel dewatering, and installation of proposed improvements. Monitoring shall be provided by the qualified biologist as necessary to ensure no inadvertent take occurs during construction. The qualified biologist shall be authorized to modify construction practices and to require additional avoidance and protective measures necessary to prevent loss of individual turtles or frogs.

(6) If any species of concern are encountered, a draft of the Species Avoidance Program shall be submitted to the Marin Community College District Director of Modernization for review and approval prior to any in-channel disturbance. If California red-legged frog and/or steelhead are encountered during the pre-construction survey,

evidence of incidental take authorization from trustee agencies shall be provided as part of the required Species Avoidance Program.

(7) Final reports summarizing the results of the pre-construction survey and, if required, the Species Avoidance Program, shall be submitted to the Marin Community College District Director of Modernization.

Mitigation Measure BIOLOGY-1b: Construction restrictions shall be implemented for activities within Ignacio Creek and main tributary drainage channel to avoid possible inadvertent take of steelhead, although the potential for occurrence of this species is highly unlikely and is in part dependent on removal of downstream barriers that preclude movement onto the Indian Valley campus. Restrictions shall consist of the following:

(1) Any in-channel construction activities shall be restricted to the period when stray or dispersing anadramous fish would not be expected within the Ignacio Creek channel (i.e., from June 15 through October 15).

(2) Adequate measures shall be taken to minimize disturbance and sedimentation, temporarily contain flow of any surface water across the construction zone, and ensure that no listed fish species are trapped within the construction zone prior to commencement of dewatering or other in-channel disturbance.

Mitigation Measure BIOLOGY-1c: Any active raptor or loggerhead shrike nests in the vicinity of proposed grading and new construction shall be avoided until young birds are able to leave the nest (i.e., fledged) and forage on their own. This measure shall not apply to ongoing maintenance and building repair, to which raptors are already acclimated. Avoidance may be accomplished either by scheduling grading and vegetation removal during the non-nesting period (September through February), or if this is not feasible, by conducting a pre-construction survey for active nests. A pre-construction survey report verifying that no active nests are present shall be submitted to the Marin Community College District Director of Modernization for review and approval prior to initiation of grading or construction during the nesting season, or verifying that nesting has been completed as detailed below. Provisions of the pre-construction survey and nest avoidance measures, if necessary, shall include the following:

(1) If grading and new construction are scheduled during the active nesting period (March through August), a qualified wildlife biologist shall be retained by the District to conduct a pre-construction nesting survey no more than 15 days prior to initiation of grading to provide confirmation on presence or absence of active nests in the vicinity.

(2) If active nests are encountered, species-specific measures shall be prepared by a qualified biologist through informal consultation with the CDFG and implemented to prevent nest abandonment. At a minimum, grading and new construction in the vicinity of the nest shall be deferred until the young birds have fledged. A nest-setback zone of at least 300 feet shall be established for raptors and 100 feet for loggerhead shrike and passerine birds within which all construction-related disturbances shall be prohibited. The perimeter of the nest-setback zone shall be fenced or adequately demarcated, and construction personnel restricted from the area.

(3) If permanent avoidance of the nest is not feasible, impacts shall be minimized by prohibiting disturbance within the nest-setback zone until a qualified biologist verifies either a) that the birds have not begun egg-laying and incubation, or b) that the juveniles from the nest are foraging independently and capable of independent survival at an earlier date than usual.

(4) A survey report of findings verifying that any young have fledged shall be submitted for review and approval by the Marin Community College District Director of Modernization prior to initiation of grading or new construction in the nest-setback zone. Following approval by the Director of Modernization, grading and construction in the nest-setback zone may proceed as proposed.

The combination of the above measures, as needed, would reduce this impact to a less-than-significant level. (LTS)

Impact BIOLOGY-2: Construction activities in or near Ignacio Creek and tributary drainages could adversely affect regulated waters and contribute to water quality degradation. (PS)

Potential impacts to jurisdictional waters would include direct modifications to creek channels, as well as indirect changes associated with the increased potential for erosion and water quality degradation. Potential erosion and degradation of the creek channel and riparian habitat typically result from increased urban runoff volumes and degraded water quality associated with development. New development typically magnifies the volume of runoff and potential for urban pollutants, with perhaps the greatest potential damage resulting from sedimentation during the construction phase of construction and from new non-point discharge of automobile by-products, fertilizers, and herbicides. However, the Bond Spending Implementation Plan has focused new development on existing parking lots and includes the use of bioswales that would actually improve existing conditions in the vicinity of the new Main Building Complex at the Indian Valley campus. Implementation of adequate erosion control measures and use of Best Management Practices would serve to address potential indirect impacts on wetlands and water quality, as discussed in Section 4.4, Hydrology and Water Quality, of this EIR.

Aspects of the proposed Bond Spending Implementation Plan could directly affect jurisdictional waters. These include the proposed replacement bridge crossing of Ignacio Creek, measures to protect existing bridge column support caps along Ignacio Creek and the main tributary drainage, and bank stabilization and enhancement work to control erosion and channel downcutting. Stabilization and management of the creek channel appear necessary to prevent further undermining of bridges, retaining walls, and possibly structures, and to improve the habitat value of this natural feature. A preliminary management plan (Questa Engineering Corporation, 2006) has been prepared addressing the existing severe erosion conditions along Ignacio Creek and identifying primary options for their management. One of these options involves a maintenance approach addressing the immediate problems at the point sources of erosion and responding to current erosive conditions in the creek. This approach would implement storm drainage best management practices, retain large woody debris in the channel bottom, and repair priority locations of creek bank erosion. The second option is a more proactive approach entailing a comprehensive, long-term creek erosion management program. This long-term program would reconfigure the existing campus storm drainage infrastructure, stabilize the channel grade along the creek bed with a series of rock weirs, provide adequate setback of campus facilities, and retain large woody debris in the channel. The District is currently focusing on addressing immediate threats to bridge structures and severe bank erosion. Improvements identified in the preliminary management plan are currently being refined based on input from regulatory agencies to further reduce areas of localized erosion using biotechnical stabilization methods while emphasizing the use of best management practices along the creek corridor. No improvements are proposed in areas of mapped potential jurisdictional wetlands indicated in Figure 4.3-1, and no impacts on these features are anticipated.

Proposed modifications to potential jurisdictional waters along the Ignacio Creek and tributary drainage channels would require authorization from the Corps, RWQCB, and CDFG. The extent of jurisdictional waters on the Indian Valley campus must still be verified by the Corps, which could result in changes to the extent of mapped features shown in Figure 4.3-1. However, there is no evidence of jurisdictional other waters or wetlands in the immediate vicinity of the proposed Main Building Complex or other locations where improvements are proposed, and no additional impacts are anticipated beyond the modifications to Ignacio Creek and the tributary drainage discussed above. Given the required authorization from jurisdictional agencies and sensitivity of the creek corridors, the potential impact on unvegetated jurisdictional other waters is considered a potentially significant impact.

> *Mitigation Measure BIOLOGY-2: Disturbance to jurisdictional wetlands and waters shall be avoided and minimized to the extent feasible, with the exception of the stabilization and restoration efforts to Ignacio Creek and the main tributary drainage. Appropriate authorizations shall be obtained*

from the U.S. Army Corps of Engineers, Regional Water Quality Control Board (RWQCB), and California Department of Fish and Game (CDFG) where avoidance is determined to be infeasible, and required conditions implemented to protect and mitigate any adverse impacts on existing habitat and water quality. Where required by jurisdictional agencies, a detailed mitigation plan shall be prepared by a qualified wetland consultant for any wetlands or waters affected by proposed improvements, with replacement provided at a minimum 1:1 ratio. The plan shall clearly identify the total jurisdictional areas affected by proposed improvements, as well as habitat to be created, restored, or enhanced as part of the required mitigation. Any replacement mitigation shall be consolidated to the degree possible to improve existing habitat values. The plan shall specify performance criteria, maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be conducted by the consulting wetland specialist until the success criteria are met. (LTS)

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4.4 HYDROLOGY AND WATER QUALITY

INTRODUCTION

This section is based on a review of the existing facilities site assessments prepared for the campus, as well as site visits conducted by Questa Engineering personnel, and correspondence with CSW/Stuber-Stroeh Engineering Group. As part of the background studies for the Bond Spending Implementation Plan, a study of Ignacio Creek on the Indian Valley campus was initiated to assess existing conditions in the creek, including bank erosion, failing trees, and bridge conditions. The reports and documents reviewed include:

- CSW/Stuber-Stroeh Engineering Group, 2005. *Hydrology Report (Existing Conditions) for College of Marin, Indian Valley Campus.* November.
- Questa Engineering Corporation, 2006. *Ignacio Creek Management Report.* August.
- CSW/Struber-Stroeh Engineering Group, Inc., 2006. *College of Marin Indian Valley Campus Site Assessment.* December.
- Soil Conservation Service, United States Department of Agriculture, 1985. *Soil Survey of Marin County.*
- Fugro West, Inc., 2005. Project Description by Baseline. *Geologic Hazards Study College of Marin Kentfield Campus (Geohazard Study)*. December.
- Government websites, including the Marin County Stormwater Management Program, Friends of Corte Madera Creek, and Association of Bay Area Governments (ABAG) for goals, regulations, and a summary of hazards ranging from flooding to dam inundation risk (March and April 2007).

ENVIRONMENTAL SETTING

Ignacio Creek flows east through the campus; it ultimately joins Novato Creek before draining into San Pablo Bay.

The Indian Valley campus lies roughly 5 miles south of downtown Novato within the Novato Creek watershed. Ignacio Creek, a tributary to Novato Creek, flows in an easterly direction for approximately 3,500 feet parallel to Ignacio Boulevard for the entire length of the Indian Valley campus. The creek has its confluence with Arroyo San Jose 0.8 mile southeast from the campus. It ultimately joins Novato Creek before draining into San Pablo Bay.

CLIMATE

The climate of the Novato Creek watershed is strongly influenced by the Pacific Ocean. The climate in the study area is typical of the climate throughout the San Francisco Bay Area; winters are mild and summers are moderately warm. Minimum and maximum daily temperatures vary approximately 30 degrees in the warm summer months, and about 15 to 20 degrees in the cooler months.

Average summer temperatures range from 52ºF to 78ºF, and average winter temperatures range from 41ºF to 55ºF (NOAA, 1997).

Rainfall in the San Francisco Bay region is strongly influenced by geographic features and varies significantly with elevation and by location within the region. The normal annual precipitation in the Novato Creek watershed varies from a maximum of over 30 inches in the western and southern portions of the basin to a minimum of about 22 inches in the northern and eastern portions of the basin, with a basin-wide mean of 28 inches (FEMA, 1989). Over 90 percent of the annual precipitation occurs in the 6-month period from November through April. The prevailing winds are usually from the north.

SOILS

Soils on hills and occurring through the Indian Valley campus and along Ignacio Creek consist primarily of naturally occurring fine, mixed clay, and sandy loams. Two soil types are present: the Tocaloma Saurin Bonnydoon Association, and Xerorthents – Urban Land. The Tocaloma and Saurin series consist of moderately deep, well-drained soils that formed in material weathered from sandstone and shale. Tocaloma and Saurin soils are on hills and have slopes of 2 to 75 percent. Basically, they are sandy and clay loams that encounter strongly weathered, fractured sandstone at approximately 40 inches depth or less. The Bonnydoon component is found in the northern part of the Ignacio Creek watershed. The Bonnydoon series differs from the Tocaloma and Saurin series in that it consists of shallow, somewhat excessively drained soils, and is found on slightly steeper slopes of 5 to 85 percent. The Bonnydoon series is a loam over white to yellowish-brown, fine-grained, weathered and fractured sandstone. The upper horizons of the Tocaloma Saurin Bonnydoon Association generally consist of moist loams, fine to very fine roots, and fine to very fine interstitial pores. Pebbles comprise up to 40 percent of the B horizon in the Tocaloma series, and 10 percent of the B horizon in the Saurin series; gravel ranges from 5 to 15 percent throughout the Bonnydoon profile. The Xerorthents type follows the drainage of Ignacio Creek, and is used to describe the highly variable, disturbed flatlands. The soils occurring on the Indian Valley campus range from moderately to highly erosive (SCS, 1985).

WATERSHED HYDROLOGY

Ignacio Creek and its main tributary drain a watershed of 292 acres (0.46 square mile), with the tributary contributing roughly a third of the entire flow at the creek's campus outlet. The headwaters lie approximately ¾-mile upstream of the campus. Vegetation in the watershed varies from oak/bay woodlands on north-facing slopes to arid annual grasslands along the south-facing slopes of the watershed. The clay topsoils, when saturated, have low permeability rates. Flows in the creek respond quickly to bursts of rainfall extending longer than 30 minutes. Tables 4.4-1 and 4.4-2 illustrate the discharge rates (in cubic feet per second [cfs]) at two different locations along Ignacio Creek for the 10-, 50-, 100-

and 500-year storm events. The flows shown in Table 4.4-1 are from the Federal Emergency Management Agency (FEMA) Flood Insurance Study (FEMA, 1989) at the confluence of Ignacio Creek and Arroyo San Jose. The flows shown in Table 4.4-2 shows peak flow rates predicted for the Indian Valley campus, calculated from the FEMA flows using a correction factor of 0.55 to account for the decrease in watershed area between the Arroyo San Jose confluence site and the Indian Valley campus.

The recent CSW/Stuber-Stroeh Engineering Group (2005) analysis of the upper watershed predicted that the peak 100-year flow at the most downstream reach on campus is 444 cfs. Ignacio Creek takes runoff from the north that originates at the parking lots that line the northern boundary of the campus.

SITE HYDROLOGY

The Indian Valley campus is located in the upper Ignacio Creek valley. Numerous smaller tributary channels flow from the surrounding hills across the campus facilities and into the creek. In most instances these tributaries are intercepted, collected, and conveyed into a concrete pipe storm drain system (see Figure 4.4-1). Main drainage lines then discharge into the creek through a series of large concrete outfalls. Parking lot runoff is collected in a series of small pipe drop inlets, asphalt curbs, and pipelines that discharge directly to the creek. Throughout the campus, there are numerous miscellaneous storm drain pipes smaller than 12 inches in diameter that collect and convey runoff from small areas of the campus.

The flow from the northern side of the Ignacio Creek valley is collected into a large 60-inch pipe that crosses underneath Ignacio Boulevard near the main campus entrance and discharges into an open channel bordering Parking Lot 2. The channel transitions to a pipe that is aligned underneath Parking Lot 2. The pipe extends through an existing residential neighborhood and finally discharges to Ignacio Creek about 500 feet downstream of the campus.

FLOODING

While there are no mapped 100-year floodplains on the campus shown on the Flood Insurance Rate Map (FEMA, 1989), the CSW/Stuber-Stroeh Engineering Group (2005) hydraulic analysis of Ignacio Creek does predict minor flooding at the culvert near the first vehicle bridge at the base of the campus. Approximately 277 cfs is conveyed in the culvert, while 145 cfs flows around and over the culvert. As water constricts into the culvert, it creates shallow, backwater flooding behind the culvert for roughly 200 feet beginning at the north bank terrace. The shallow flooding encompasses the creek channel and extends briefly into the grassy areas between the creek and Parking Lot 2.

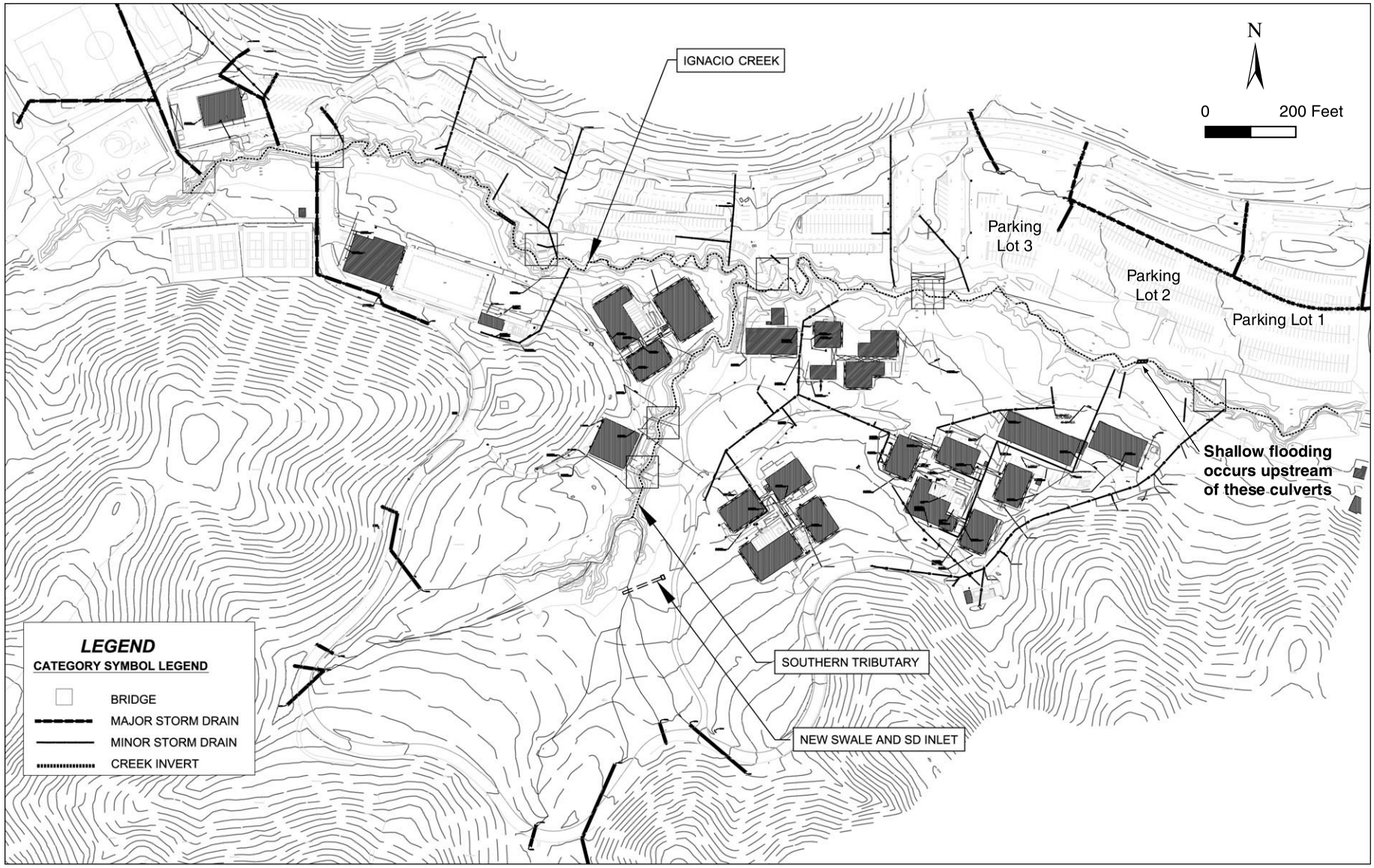

Figure 4.4-1

SOURCE: Questa Engineering, 2007

EXISTING DRAINAGE AT INDIAN VALLEY CAMPUS

Table 4.4-1 Discharges for Ignacio Creek at Arroyo San Jose Confluence

Recurrence Interval	Discharge (cubic feet per second)
10-year	400
50-year	650
100-year	800
500-year	1,000

Source: FEMA, 1989.

Table 4.4-2 Peak Discharges for Ignacio Creek at Indian Valley Campus

Recurrence Interval	Discharge (cubic feet per second)
10-year	220
50-year	358
100-year	444
500-year	550

Source: CSW/Stuber-Stroeh Engineering Group, 2005.

Currently, this minor flooding does not affect any campus facilities, though the pedestrian path between Parking Lot 2 and the paved culvert at the creek does experience shallow flooding and may be impassable or hazardous during peak flows.

Geomorphically, the flow constriction at the culvert and the consequent backwater have likely discouraged bank erosion at the reach above the culvert, slowing velocities to allow sediment deposition and creating shallow terraces. The greatest flooding threat appears to be the potential for debris to clog the existing culverts for both the interior drainage network and the creek. If these culverts were to plug with debris, water would back up and flow around or over these structures, causing erosion and posing a threat to public safety.

It should be noted that this culvert is proposed for removal as part of the Creek Erosion Mitigation Program. The channel bed is to be stabilized as part of the planned creek improvements (see discussion below).

CREEK MANAGEMENT ISSUES

Natural stream channels alternately aggrade (i.e., accumulate sediment) and degrade (i.e., scour sediment), depending on the flow rate in the channel. If a channel carries high sediment loads, or is flowing through erodible materials, the flow velocity must be high enough to avoid the net accumulation of sediment and, at the same time, low enough so it does not initiate progressive and long-term bed scouring. This balance means that the transport capacity of the flow should be equal to the rate of sediment supply over the long term.

The Ignacio Creek channel has incised throughout the Indian Valley campus reach. Numerous factors such as reduction of sediment input, knickpoint or headcut migration upstream, increased runoff, and the removal of woody debris have contributed to this problem. This is the primary geomorphological mechanism occurring in Ignacio Creek that accounts for its current eroded state. Numerous knickpoints and grade controls have been identified within the creek system. As the channel bed incises, the banks steepen and become more vertical. As the banks steepen, they become unstable, eventually failing and slumping. Many of the creek banks on the campus exhibit unstable vertical banks (see Figure 4.4-2). The channel is in an evolutionary cycle to widen its top width and develop new floodplain terraces within its new top of banks.

Many of the vertical creek banks on the campus are unstable.

As part of the CEQA team, Questa Engineering developed a Draft Creek Management Plan in 2006 (Questa Engineering, 2006). This plan addresses erosion at the campus bridges and Identifies buildings that may be at risk in the future. The plan also outlines considerations for managing woody debris in the channel. These are discussed further under "Environmental Impacts and Mitigation Measures" below.

GROUNDWATER

The Indian Valley campus is underlain by the Franciscan Formation, which is primarily a mélange of basalt, blueschist, chert and hard sandstone that is sheared and jumbled into a varied mix. Overlaying this bedrock base is approximately 10 to 40 feet of clayey soil and weathered clayey sandstone. Based on geotechnical boring data, groundwater is generally coincident with the creek areas (Fugro West, Inc., 2005). Borings that were conducted near the creek found groundwater levels that were at or very near the creek bed elevations. Borings completed farther away from the creek encountered little or no groundwater. It therefore can be deduced that the shallow groundwater table generally runs parallel to the creek and may be found primarily at the contact between the overlaying sediment and the bedrock. Numerous seeps were noted at this contact where it could be observed in the creek channel.

The groundwater within the Ignacio Creek valley is not used for municipal drinking water or for major agricultural use. The groundwater withdrawal in the area is

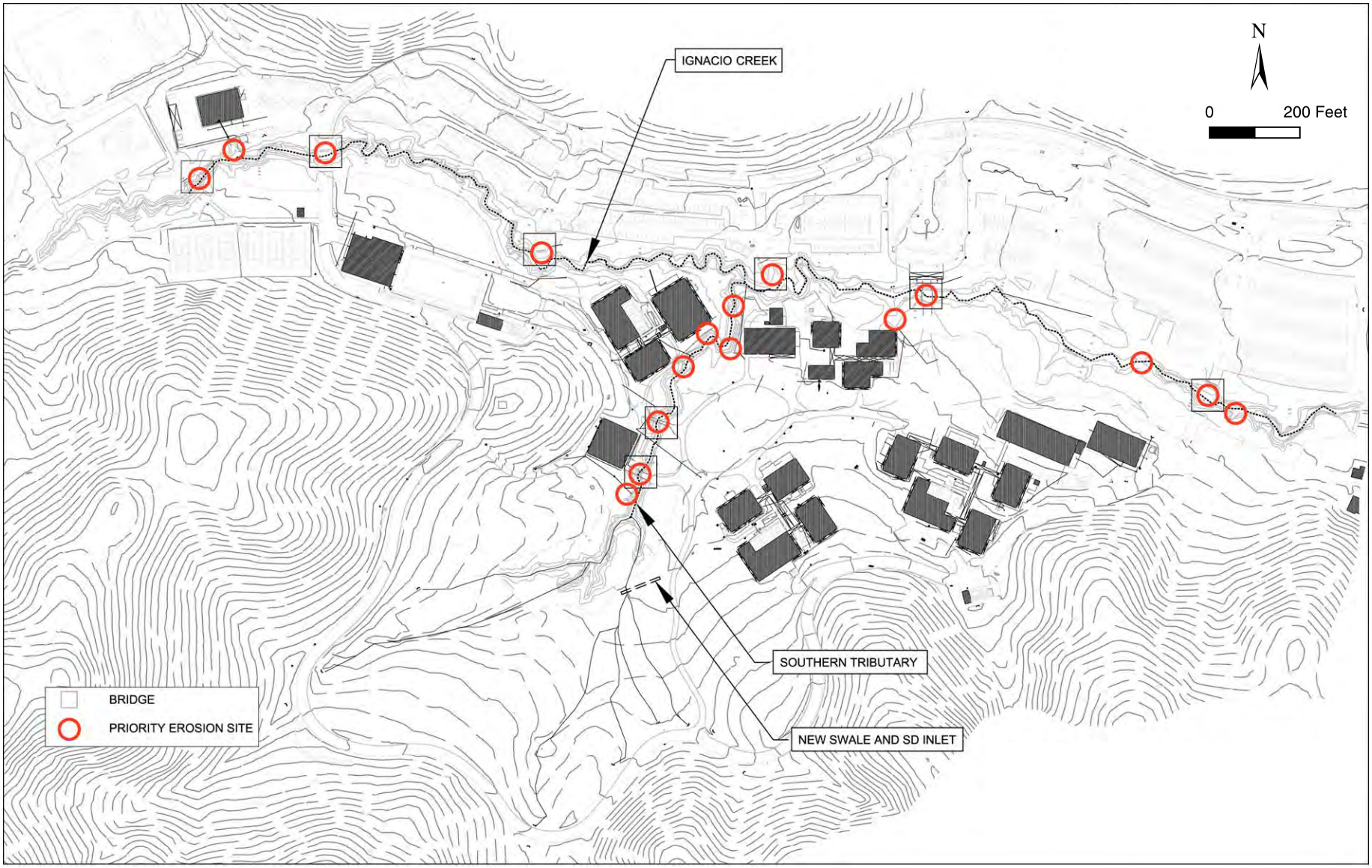

Figure 4.4-2

SOURCE: Questa Engineering, 2007

EXISTING SITES OF EROSION AT INDIAN VALLEY CAMPUS

typically limited to the shallow zone or deeper fractured rock zones. These fractured rock aquifers tend to yield only small volumes of water to wells. Groundwater is not used at the Indian Valley campus for campus landscape irrigation.

SURFACE WATER QUALITY

Water quality in Ignacio Creek through the campus is considered good. Water quality issues in the area are directly related to land use. The watershed above the college campus is primarily open space and athletic fields. As such, the types of pollutants entering the creek channel are primarily sediment from eroding banks and minor amounts of nutrients from the fertilizers applied to the playing fields. Downstream of the college, the water quality is affected by more urbanized land uses. Runoff from the campus parking lots and residential subdivisions downstream contribute non-point-source-type pollutants such as oil and grease, herbicides and pesticides, heavy metals, and other urban-type pollutants. The San Francisco Bay Regional Water Quality Control Board has listed Novato Creek as an impaired water body because of high diazinon levels. Diazinon is common pesticide used in landscape areas.

Water quality in Ignacio Creek through the campus is considered good.

REGULATORY SETTING

Site development may be subject to laws, regulations, and regulatory programs administered by local, State, and federal regulators. In some cases, federal laws are administered and enforced by state and local government. In other cases, State and local regulations in California are stricter than those imposed by federal law. This section summarizes relevant regulatory programs, laws, and regulations with respect to hydrology and water quality.

Federal Laws and Regulations (Clean Water Act)

The Federal Water Pollution Control Act Amendments of 1972 were enacted to protect water quality in the United States. As amended by Congress in 1977, this Act became commonly known as the Clean Water Act (CWA) and has been amended several times since its inception. It is the primary federal law regulating water quality in the United States, and forms the basis for several State and local laws throughout the country. Its objective is to reduce or eliminate water pollution in the nation's rivers, streams, lakes, and coastal waters. The CWA prescribes the basic federal laws for regulating discharges of pollutants and sets minimum water quality standards for all waters of the United States. At the federal level, the U.S. Environmental Protection Agency (EPA) administers the CWA. At the State and regional level, the CWA is administered and enforced by the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs). The State of California has developed a number of water quality laws, rules, and regulations to assist in the implementation of the CWA and related federally mandated water quality requirements. In many cases, the federal requirements set minimum standards,

and the laws, rules, and regulations adopted by the State and regional boards are more restrictive (i.e., more protective of the environment).

State Laws and Regulations

Porter-Cologne Water Quality Control Act. The Porter-Cologne Water Quality Control Act established the SWRCB and the RWQCBs as the principal State agencies having primary responsibility for coordinating and controlling water quality in California. The Porter-Cologne Act establishes the responsibility of the RWQCBs for adopting, implementing, and enforcing water quality control plans (Basin Plans). These plans set forth the State's water quality standards (i.e., beneficial uses of surface waters and groundwater) and the objectives or criteria necessary to protect those beneficial uses.

NPDES Permit Requirements. The CWA has nationally regulated the discharge of pollutants to the waters of the U.S. from any point source since 1972. In 1987, amendments to the CWA added Section 402(p), which established a framework for regulating non-point source (NPS) stormwater discharges under the National Pollutant Discharge Elimination System (NPDES). The current NPDES stormwater program regulates stormwater discharges from industrial facilities, large and medium-sized municipal separate storm sewer systems (those serving more than 100,000 persons), small municipal separate stormwater systems, and construction sites that disturb one or more acres of land. Under the program, the construction associated with the Bond Spending Implementation Plan would be required to comply with two NPDES permit requirements.

The NPDES General Construction Permit Requirements apply to clearing, grading, and disturbances to the ground (such as excavation). The Marin Community College District general contractor would submit a Notice of Intent (NOI) with the SWRCB Division of Water Quality. The NOI includes general information on the types of construction activities that would occur on the site. The District contractor would also be required to submit a site-specific plan called the Stormwater Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP would include a description of Best Management Practices (BMPs) to minimize the discharge of pollutants from the site during construction.

Local Programs and Regulations

San Francisco Bay Water Quality Control Plan (Basin Plan). The San Francisco Bay RWQCB is responsible for the development, adoption, and implementation of the Water Quality Control Plan (Basin Plan) for the San Francisco Bay region. The Basin Plan is the master policy document that contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the San Francisco Bay Region. The Basin Plan identifies beneficial uses of surface waters and groundwater within its region and specifies water quality objectives to maintain the continued beneficial uses of these waters. The proposed project

would be required to adhere to all applicable water quality objectives identified in the Basin Plan.

According to the Basin Plan (SWRCB), the beneficial uses of the Novato Creek watershed include cold freshwater habitat for fish (COLD,) non-contact water recreation activities such as hiking, sunbathing and camping (REC-2); harvesting shellfish (SHELL); fish spawning (SPWN); and wildlife habitat (WILD). Water contact recreation such as swimming, wading, fishing, and diving (REC-2) is listed as a potential beneficial use.

Marin County Stormwater Pollution Prevention Program (MCSTOPPP). The San Francisco Bay RWQCB requires Marin County municipalities to develop a plan for protecting the water quality of San Francisco Bay and the Pacific Ocean from polluted stormwater. The Marin County Stormwater Pollution Prevention Program (MCSTOPPP) represents the effort of a number of Marin agencies, including the City of Novato, to comply with these requirements. Their efforts are summarized in the Marin County Stormwater Pollution Prevention Program: Action Plan 2010 (EOA, 2005). This plan includes performance standards adopted by each local agency for practices such as routine clearing of drain inlets, street sweeping, spill prevention and clean-up, and asphalt paving or concrete work. Each agency is responsible for ensuring that its local program meets RWQCB requirements by implementing these performance standards. Areas addressed include Municipal Maintenance Activities, Illicit Discharge Controls, Construction Controls, Industrial and Commercial Discharge Controls, and Public Information and Participation. The Marin Community College District is not a party to MCSTOPPP but would be expected to comply through established County programs and permits. Stormwater drainage runoff from the proposed project site would be expected to comply with MCSTOPPP.

Marin County Flood Control and Water Conservation Flood Zone 1. Marin County Flood Control and Water Conservation Zone 1 works with the City of Novato to ensure adequate drainage in the Ignacio Creek watershed area in public and private rights-of-way. This includes regular maintaining of public drainageways, catch basins, and drop inlets to reduce flooding, as well as coordinating improvements to or adding drainage infrastructure to protect public safety and accommodate new development. The District maintains the campus drainage infrastructure through an ongoing maintenance and repair program. A Storm Drain Repairs project was completed in 2006 that addressed system flushing, repair of some failed sections of concrete pipe, joints, and other miscellaneous inlet repairs and swale work. A SWPPP was filed as part of this project.

The District would continue to work with the County and MCSTOPPP to ensure adequate on-site drainage and water quality controls since site runoff would be directed into the municipal system.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

For the purposes of this Draft EIR, the project would cause a significant hydrology or water quality impact if it would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place structures within a 100-year flood hazard area that would impede or redirect flood flows;
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or
- Cause inundation by seiche, tsunami, or mudflow.

LESS-THAN-SIGNIFICANT IMPACTS

The following CEQA criteria were determined in the Initial Study (see College of Marin website) and this EIR to represent a less-than-significant impact or no impact based on site conditions and the implementations being proposed. The project would not:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (i.e., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted). The proposed new geothermal well field, being a completely closed system, would not affect groundwater resources.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Currently, a minor amount of flooding occurs at an existing creek crossing south of Parking Lot 2. The Bond Spending Implementation Plan calls for removal of the crossing and the associated culverts, deepening of the creek center line, widening of the creek channel, and the installation of rock weir gradient controls. These restoration improvements are designed to improve flood capacity and would be designed so that the creek channel would be capable of conveying 100-year flows.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality. (See discussion of water quality impacts under "Potentially Significant Impacts" below.)
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place structures within a 100-year flood hazard area that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Cause inundation by seiche, tsunami, or mudflow.

POTENTIALLY SIGNIFICANT IMPACTS

This section addresses potentially significant impacts related to hydrology and water quality from adoption of the Bond Spending Implementation Plan, based on the significance criteria identified above.

Impact HYDROLOGY-1: Construction under the Bond Spending Implementation Plan could cause soil erosion, sedimentation, and other effects on water quality. (PS)

The project would involve the construction of one new building in Parking Lot 2, a bio-retention area, and possibly a new clear span pedestrian bridge. Site grading, ingress and egress of construction equipment and staging areas would remove protective vegetation and disturb the ground, thereby exposing soil to increased erosion from stormwater runoff, site watering, and wind. As a result, the project could potentially generate temporary increases in sediment loads and associated urban pollutants to vicinity waterways during the construction period. Eroded soil contains nitrogen, phosphorus, and other nutrients, which, when transported to water bodies, can trigger algal blooms that reduce water clarity, deplete oxygen, and create odors. The overall increase in turbidity and resulting decline in photosynthesis can be a detriment to the entire aquatic ecosystem. Eroded sediment may also contribute to flooding and erosion downstream by clogging drains or natural waterways, thereby rerouting stormwater into areas not designed to handle the flow. This can cause channel incision, slope instability, and flooding. The proposed project would have a potentially significant impact from degradation of water quality as a result of construction.

Mitigation Measure HYDROLOGY-1a: The District shall prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) prior to the onset of site grading or construction.

(1) The Erosion Control Plan shall include erosion control/soil stabilization techniques such as straw mulching, erosion control blankets, erosion control matting, and hydro-seeding. Silt fences used in combination with fiber rolls shall be installed downslope of all graded slopes. Fiber rolls shall be installed in the flow path of graded areas receiving concentrated flows and silt fences and other proven sediment retention structures shall be placed around all soil stockpiles. The construction entrances shall be stabilized to prevent tracking of dirt onto roads next to the site through the use of a gravel base, erosion control blankets, or other approved elements.

(2) After construction is completed, all drainage facilities shall be inspected for accumulated sediment, and these drainage structures shall be cleared of debris and sediment.

Long-term mitigation measures to be included in the project SWPPP shall include, but not be limited to, the following:

(3) Description of potential sources of erosion and sediment at the project site, and any hazardous or potentially hazardous materials and chemicals. This description shall include a thorough assessment of existing and potential pollutant sources.

(4) Development of a monitoring and implementation plan. Maintenance requirements and frequency, including vector control, clearing of clogged or obstructed inlet or outlet structures, and vegetation/landscape maintenance, shall be carefully described.

(5) The SWPPP shall be adjusted, as necessary, to address any inadequacies of the best management practices (BMPs).

Mitigation Measure HYDROLOGY-1b: The District shall implement "best management practices" (BMPs) for preventing the discharge of other construction-related NPDES pollutants beside sediment (i.e., paint, concrete, etc.) to downstream waters, including the following measure:

(1) Parking lots and other paved areas shall be swept regularly to eliminate the majority of litter and debris washing into storm drains and thus entering local waterways.

The combination of the above measures would reduce this impact to a less-than-significant level. (LTS)

Impact HYDROLOGY-2: Runoff from the Indian Valley campus could increase non-point source pollution in receiving waters such as San Francisco Bay. (PS)

There has been no known water quality monitoring of runoff from the project site or vicinity. Non-point source (NPS) pollutants are washed by rainwater from roofs, landscape areas, and streets and parking areas into the drainage network. An increase in NPS pollutants could have adverse effects on wildlife, vegetation, and human health. NPS pollutants could also infiltrate into groundwater and degrade the quality of potential groundwater drinking sources. Though the Bond Spending Implementation Plan would result in a net loss of parking lots, an increase in oil, grease, metals, and petroleum hydrocarbons is likely, due to the projected increase in enrollment and use of parking facilities. Due to the variability of urban runoff characteristics, it is difficult to estimate pollutant loads for oil and grease and total petroleum. The generation of water pollution as a result of future use following development is considered potentially significant for the proposed project.

On-site runoff from the project would be filtered by a grassed bioswale, and a new detention water quality basin would be constructed to filter runoff specifically from the Pomo Cluster, which contains the Transportation Technology Complex (see Figures 4.4-3 and 4.4-4). Both the bioswale and bio-retention basin would serve to remove grease and petroleum hydrocarbons; the bio-retention basin would also remove sediment from on-site runoff.

Mitigation Measure HYDROLOGY-2a: The District shall design the proposed bio-retention basin to improve water quality by allowing sediments and particulates to settle prior to discharging to downstream waterways. By retaining runoff, the bio-retention ponds shall allow for some pollutant removal through infiltration and vegetative uptake. Many pollutants in stormwater, including lead, copper, zinc, phosphorus, and hydrocarbons, are associated with sediment and fine particulates. Thus,

the ability of a stormwater practice to remove many nutrients, trace metals, and hydrocarbons is largely related to its ability to remove suspended sediment and particulates.

The basin shall serve the purposes of both peak storm runoff detention and water quality control. The basin shall discharge to a storm drain pipe that outfalls to Ignacio Creek south of Parking Lot 1.

In order to optimize both the stormwater detention and water quality control aspects, the following steps shall be taken:

(1) The basin shall be designed to drain slowly over 24 hours.

(2) The basin shall include a coarse pollutant basin, or forebay, just above the storage basin to remove coarse materials as they enter the storage basin. The coarse pollutant basin shall be deep enough to detain average seasonal flows for about five minutes and prevent the resuspension of deposited sediments.

(3) The coarse pollutant basin and the storage basin shall be lined with hardy wetland vegetation and grass, respectively.

(4) The basin shall be designed with an emergency spillway for 50-year storm events.

(5) Excess sediment decreases basin efficiency and must be removed to ensure basin features function as designed. Two staff gauges shall be placed in appropriate areas of the dry detention pond to monitor sediment accumulation. The staff gauges shall track the rate of sedimentation and identify the need for sediment removal.

(6) Sediment shall be removed when an average of 1.5 feet of sediment has accumulated in the basin.

(7) Sediment shall be removed by mechanical means such as a small excavator or loader. Care should be taken to ensure that the basin is restored to the proper invert elevations.

(8) It may be necessary to re-seed both the coarse pollutant basin and the storage basin after maintenance. Initially during construction, sediment input into the basin would be high. The basin would likely need to be cleaned within 1 to 2 years after project completion. Adequate access for basin maintenance shall be provided.

Mitigation Measure HYDROLOGY-2b: A maintenance and operations plan shall be developed by the District as part of the overall design of the bio-retention basin. The basin shall receive periodical maintenance including desilting, vegetation clearing, and trash and debris removal.

Mitigation Measure HYDROLOGY-2c: The District shall ensure that the bio-retention basin shall be designed per the latest edition of the California

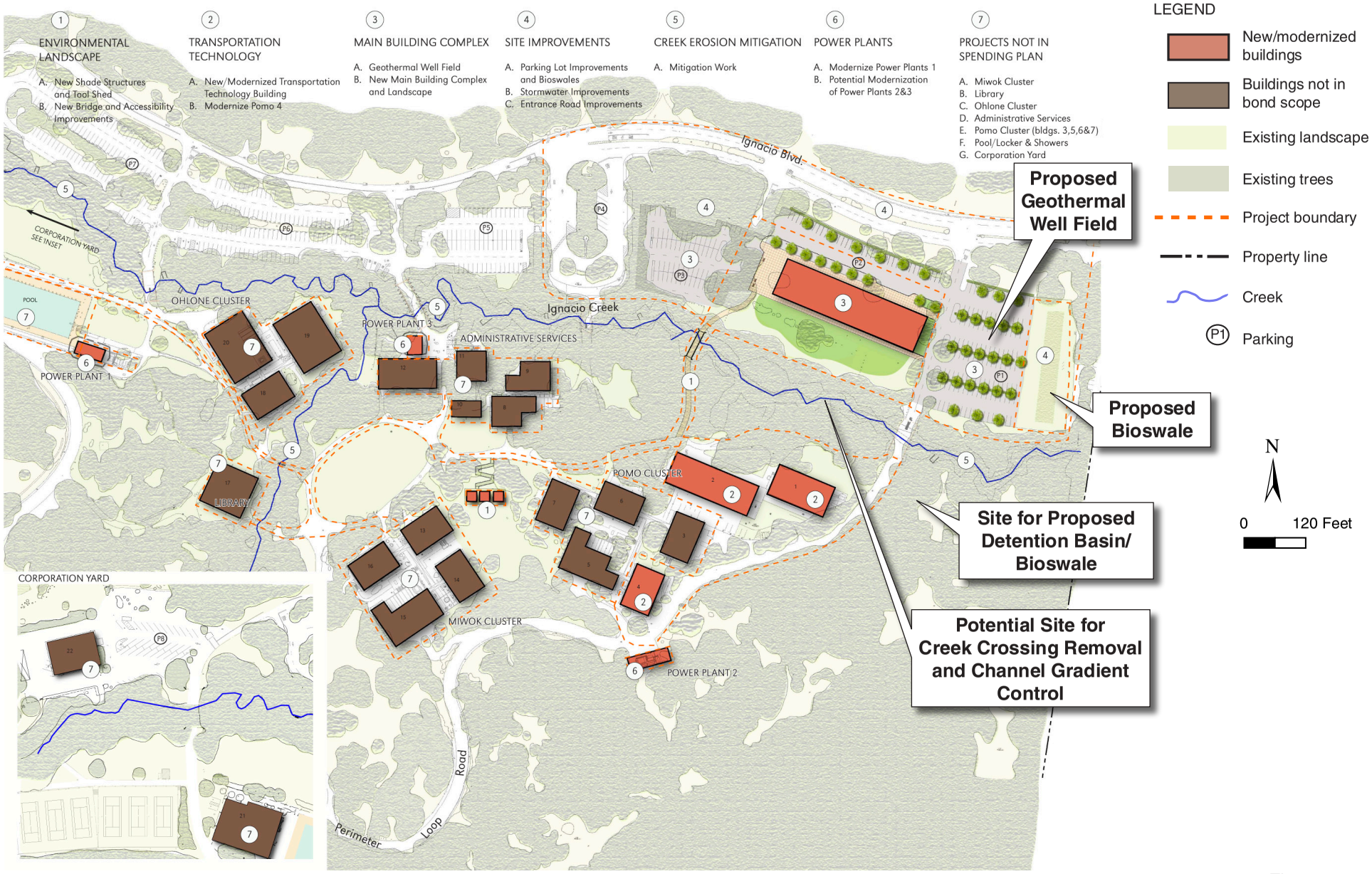

Figure 4.4-3

SOURCE: Questa Engineering and CSW/St^2 ,2007

HYDROLOGIC FEATURES PROPOSED FOR INDIAN VALLEY CAMPUS

Figure 4.4-4

SOURCE: CSW/St^2 and RHAA, 2007

ON-SITE BIOSWALE AT INDIAN VALLEY CAMPUS

Municipal BMP Manual or other standards approved by the State Water Resources Control Board (SWRCB) prior to construction.

Mitigation Measure HYDROLOGY-2d: The District shall incorporate, where feasible within design constraints, grassed swales (bioswales) into the project drainage system for runoff conveyance and filtering of pollutants. Rather than have concrete drainage swales to transport the runoff to roadside ditches, these swales shall be lined with grass or appropriate vegetation to encourage the biofiltration of sediment, phosphorus, trace metals, and petroleum from runoff prior to discharge into the formal drainage network. General design guidelines relevant to optimizing the pollutant removal mechanisms of grassed swales are (1) a dense, uniform growth of fine-stemmed herbaceous plants for optimal filtering of pollutants; (2) vegetation that is tolerant to the water, climatological, and soil conditions of the project site is preferred; (3) grassed swales that maximize water contact with the vegetation and soil surface have the potential to substantially improve removal rates, particularly of soluble pollutants; and (4) pollutant removal efficiency is increased as the flow path length is increased.

Grassed/vegetated swales treat concentrated flow and must be sized wide enough to maintain low-flow velocities and maximize surface area. A minimum of 1,200 square feet of swale per impermeable acre is recommended. Entrances to swales shall be equipped with flow spreaders to dissipate energy and avoid erosion and have a maximum longitudinal slope of 5 percent.

Mitigation Measure HYDROLOGY-2e: The District shall develop a long-term maintenance plan for the bioswale to include the following: (1) regular mowing to promote growth and increase density and pollutant uptake (vegetative height should be no more than 8 inches, cuttings must be promptly removed and properly disposed of); (2) removal of sediments during summer months when they build up to 6 inches at any spot, cover bioswale vegetation, or otherwise interfere with bioswale operation; and (3) reseeding of bioswale as necessary, whenever maintenance or natural processes create bare spots.

The combination of these mitigation measures would reduce the impact to a less-than-significant level. (LTS)

Impact HYDROLOGY-3: Alteration of the existing drainage pattern at the Indian Valley campus could result in increased erosion on and off the site. (PS)

The Bond Spending Implementation Plan would alter the existing drainage patterns in such a way that erosion could occur both during and after construction. During the construction period, grading operations would result in

the removal of on-site soil cover and the exposure of site soils to the erosional forces of runoff. Construction activities could also result in the erosion of topsoil on the project site and subsequent sedimentation of Ignacio Creek. (See Impact HYDROLOGY-1.)

Once the project is completed, on-site runoff would be discharged to existing storm drain outfalls in Ignacio Creek. The velocity of discharge at the storm drain outfalls could be erosive and result in the erosion of the creek bank and channel. Furthermore, the HEC-RAS model data for developed conditions of the project site indicate that the flow velocity of water in Ignacio Creek would be erosive in several areas of the creek channel during passage of the 100-year storm event. Erosion and sedimentation of Ignacio Creek could impair water quality in the creek and at receiving waters downstream of the project site. Thus, the alteration of existing drainage patterns of the site so as to increase flooding is considered a potentially significant impact of the proposed project.

> *Mitigation Measure HYDROLOGY-3a: Where possible, the District shall use biotechnical bank stabilization techniques as erosion protection within Ignacio Creek (Questa Engineering, 2006). Biotechnical erosion control techniques include planted rock rip rap, large woody debris, coir fiber logs, willow staking, soil reinforcement products, and other pre-approved erosion protection materials. The use of concrete reinforcement should be minimized to the greatest extent possible and only used to protect infrastructure.*
>
> *Mitigation Measure HYDROLOGY-3b: The District shall ensure that all stormwater drainage shall be released in such a manner as to prevent erosion within Ignacio Creek by using existing outfalls and dissipators.*
>
> *The combination of these mitigation measures would reduce the impact to a less-than-significant level. (LTS)*

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4.5 HAZARDOUS MATERIALS

INTRODUCTION

A hazardous material is a substance or combination of substances that, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness; or (2) pose a substantial present or potential hazard to human health and safety or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Hazardous waste (a subset of hazardous materials) refers to hazardous material that is abandoned, discarded, or recycled.

This section describes the history of hazardous materials used at the Indian Valley campus and the potential threat to future site users and the surrounding environment resulting from the proposed development.

The information presented below was drawn from several sources of data including:

- CSW/Struber-Stroeh Engineering Group, Inc., 2006. *College of Marin Indian Valley Campus Site Assessment.* December.
- Steinberg Architects, 2006. *Bond Spending Implementation Plan*. December.
- Ninyo and Moore, 2006. *Existing Facilities Assessment: Indian Valley Campus.* December.
- Review of the Department of Toxic Substances and Control (DTSC) Database (www.envirostor.dtsc.ca.gov).
- Review of the State Water Resources Control Board Geotracker Database (geotracker.swrcb.ca.gov).

ENVIRONMENTAL SETTING

SITE HISTORY

The Indian Valley campus was constructed in the early 1970s on the former Pacheco Ranch. The campus site was historically used as a working ranch. The campus encompasses approximately 330 acres, though only a small portion of that area is developed with one- and two-story buildings arranged in a series of clusters. Other buildings include the library, the pool complex, the corporation yard, and three small power plants. The campus is located in the valley bottom and Ignacio Creek separates the college parking from the main campus complex. Several bridges cross Ignacio Creek throughout the campus (see Figure 3-2).

REGULATORY SETTING

Jurisdictional Authority

REGULATORY AGENCIES

FEDERAL:
U.S. Environmental Protection Agency

STATE:
Department of Toxic Substances Control
State Water Resources Control Board

LOCAL:
SF Bay Regional Water Quality Control Board
Marin County Waste Management Division
City of Novato

At the federal level, the chief regulator of hazardous materials is the U.S. Environmental Protection Agency (EPA), Region IX for Northern California. At the State level, the Department of Toxic Substances Control (DTSC) is chiefly responsible for regulation, handling, use, and disposal of hazardous materials. The State Water Resources Control Board (SWRCB) is involved in regulation and permitting wherever there is potential discharge of hazardous materials into waterways and underground aquifers, including regulation of stormwater runoff through the general permit required for construction projects exceeding 1 acre in size. The local branch of the SWRCB is the San Francisco Bay Regional Water Quality Control Board (RWQCB).

Regulation of toxic and hazardous substances is locally administered through the Marin County Department of Public Works Waste Management Division, which acts as the Certified Unified Program Agency (CUPA). A CUPA is certified by the California Environmental Protection Agency to handle certain hazardous materials and hazards programs. The CUPA program was established under the amendments to the California Health and Safety Code made by SB 1082 in 1994, which allows for local agencies, such as counties, cities, or joint powers authorities, to assume responsibility for programs such as the Hazardous Materials Business Plan/Emergency Response Plan, Hazardous Waste/Tiered Permitting, Underground Storage Tanks, Aboveground Storage Tanks, California Accidental Release Program, and the Uniform Fire Code Hazardous Materials Management Plan.

The Marin County Department of Public Works Waste Management Division is responsible for solid waste collection and diversion, coordination of Household Hazardous Waste (HHW) disposal, and inspection of hazardous materials/waste sites within all areas of the County, except Novato. The City of Novato has its own HHW program.

The County Waste Management Division provides staff support to the Marin Hazardous and Solid Waste Joint Powers Authority (JPA). The JPA is a State-approved regional agency encompassing Marin's cities and unincorporated areas. This agency was created to reduce disposal requirements and to promote reuse and recycling. This regional agency develops and implements Marin County's Regional Integrated Waste Management Plan, monitors Marin County's diversion rates, and coordinates the operation of Marin County's permanent HHW collection facility for all jurisdictions except the City of Novato. The City of Novato implements its own HHW program in conjunction with Novato Sanitary District. It operates a disposal drop-off facility that is open the first and third Sundays and Mondays of each month.

Regulatory Programs

A Hazardous Materials Business Plan is used to keep track of the use of hazardous materials by the campus in accordance with both State and federal laws. The Hazardous Waste Generator Program was started in 1984 when the State of California DTSC authorized the County to inspect and regulate non-permitted hazardous waste generators in Marin County based on the Hazardous Waste Control Law found in the California Health and Safety Code Division 20, Chapter 6.5 and regulations found in the California Code of Regulations, Title 22, Division 4.5.

The District has registered and complies with the hazardous waste generator program. The State of California Department of Toxic Substances Control authorized the Marin County Department of Public Works Waste Management Division to inspect and regulate non-permitted hazardous waste generators in Marin County based on the Hazardous Waste Control Law found in California Health and Safety Code Division 20, Chapter 6.5 and regulations found in the California Code of Regulations, Title 22, Division 4.5. Regulations require that generation of any amount of hazardous waste, as defined by regulation, have proper storage, management, and disposal.

The United States Environmental Protection Agency (USEPA), under Cooperative Agreement L-009450-1-0 to the SWRCB, funds the groundwater protection program wholly or in part. In conjunction with these laws, the underground storage tank program was created to regulate the chief source of underground contamination, leaking underground storage tanks or fuel tanks.

Many regulatory agencies maintain a database of sites. Currently, both the DTSC (http://www.envirostor.dtsc.ca.gov/public/) and SWRCB (http://www.swrcb.ca.gov/tankpage.html) maintain online searchable databases of hazardous materials sites. A search of this database indicated that no hazardous sites exist at the Indian Valley campus or surrounding zip code area.

Other databases with information on hazardous materials sites include the Federal Superfund list started through the Comprehensive Environmental Response, Conservation, and Liability Act (CERCLA) of 1980 and the USEPA; the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS); DTSC's HAZNET; the leaking underground storage tank information system (LUST); and the Cortese list. Air pollution is regulated through the Bay Area Air Quality Management District (BAAQMD).

These programs and regulations are intended to restrict environmental contamination (including hazards to wildlife), provide protection for natural resources, and limit public exposure to harmful chemicals. Specific programs intended to protect workers from exposure to hazardous materials and from accidental upset are covered under the Occupational Health and Safety Administration at both the federal level (OSHA) and the State level (CAL-OSHA).

Title 40 of the Federal Code of Regulations covers worker training and safety regulations pertinent to hazardous materials. OSHA regulations for hazardous waste operations training in California are found in Title 29 of the California Code, Section 1910.120(e).

Transportation of hazardous materials on the highways is regulated primarily through the federal Department of Transportation (DOT) and the California Department of Transportation (Caltrans). This regulation system includes a system of placards, labels, and shipping papers required to identify the hazards of shipping each class of hazardous materials. Existing federal and State laws address the risks associated with the transport of hazardous materials. These laws include regulations outlined in the Hazardous Materials Transportation Act administered by the DOT. Caltrans is mandated to implement the regulations established by the DOT, which is published as the Federal Code of Regulations, Title 49, commonly referred to as 49 CFR. The California Highway Patrol (CHP) enforces these regulations. Regulations of hazardous materials and wastes include the manufacture of packaging and transport containers, packing and repacking, labeling, marking or placarding, handling, spill reporting, routing of transports, training of transport personnel, and registration of highly hazardous material transport.

HAZARDOUS MATERIALS ON CAMPUS

The main issues on campus stem from the existence of hazardous building materials and hazardous classroom and maintenance supplies.

Each building and facility on the Indian Valley campus was assessed and sampled for hazardous building materials (HBM) and hazardous materials and waste (HMW) (Ninyo and Moore, 2006). Physical surveys, material sampling, and records searches were conducted to determine the occurrence of existing and past hazardous materials on the campus. Primarily, the historic hazardous materials issues stem from the existence of hazardous building materials and hazardous classroom and maintenance supplies on campus. Hazardous building materials would also include the occurrence of lead-containing paint (LCP), asbestos-containing pipes (ACP), and asbestos-containing materials (ACM). The assessments also investigated whether there was a potential for the occurrence of polychlorinated biphenyls (PCBs). Table 4.5-1 shows a summary of the hazardous materials identified at the campus buildings during the initial assessments.

In general, all of the buildings contain hazardous building materials such as LCP, ACM, and small amounts of PCBs contained in the light ballasts, mercury in old thermostats, and old refrigeration and hydraulic systems. These materials do not pose a significant risk to occupants if undisturbed. However, these materials do degrade over time so that eventually these materials will have to be replaced and disposed of properly as renovations occur.

Different buildings and different departments have varying amounts of and ways of handling hazardous materials and waste generated by the Indian Valley campus. Some departments' hazardous materials and waste were stored in

Table 4.5-1 Hazardous Materials by Building/Building Cluster

Building	HMW	ACP	ACM	PCBs	LCP	Old USTs	AST
Pomo Cluster	X	X	X	X	X	X	
Admin/Child Center	X	X	X	X	X		
Miwok Cluster		X	X	X	X		
Library		X	X	X	X		
Ohlone Cluster	X	X	X	X	X		
Pool Complex			X	X	X	X	
Corporation Yard	X		X	X	X	X	X
Bridges	X						
Central Power Plant	X	X	X	X	X		

Notes: HMW: Hazardous Materials and Waste
ACP: Asbestos Containing Pipe
ACM: Asbestos Containing Materials
PCBs: Polychlorinated Biphenyls
LCP: Lead-Containing Paint
USTs: Underground Storage Tanks
AST: Aboveground Storage Tank
Source: Ninyo and Moore, 2006.

double containment containers. Other departments and buildings throughout the campus had supplies and various amounts of hazardous materials that were not stored in code-compliant containers (Ninyo and Moore, 2006).

Six underground storage tanks (USTs) were previously located on the Indian Valley campus. Four tanks were removed from the area around the Pomo Cluster. Three of the tanks contained gasoline and were removed in 1989. The fourth tank was a waste oil tank that was removed in 1991. Sampling of the area with previous gasoline tanks was completed and a minor amount of petroleum hydrocarbons were found. The area beneath the waste oil tank was found to be clean. Subsequent sampling completed in 2002 and 2003 found that some contamination was present in the backfill of the gasoline tank site down to 7 feet. Sampling of groundwater about 35 feet below surface did not contain measurable concentrations of petroleum hydrocarbons. The fifth UST found on campus was located at the corporation yard. This tank was a 500-gallon gasoline tank that was on the north side of the building and was removed in 1991. Subsequent sampling of the surrounding soil and excavation showed no

measurable concentrations of petroleum hydrocarbons. A sixth UST was located near the pool complex. This UST was a 15,000-gallon fiberglass diesel fuel tank that was removed in 1993. Post-removal sampling of the surrounding soil found no adjacent soil contamination (Ninyo and Moore, 2006).

One aboveground storage tank (AST) is located near the corporation yard. This tank is code-compliant and situated in a double-walled containment system.

PCBs may be found in hydraulic fluid that is used in numerous hydraulic lifts and elevators throughout the campus buildings. According to the site assessments, PCB-containing hydraulic fluid was not manufactured after 1979, but given the age of the campus buildings and facilities, there is a potential for some of these machines to have older PCB-containing hydraulic fluid in them.

Most of the hazardous materials on the campus site are in an undisturbed condition and thus do not pose a hazard for building occupants. The predominant hazardous materials risks for the campus would be the proper storage, collection, and disposal of hazardous material generated from building renovation and/or daily campus operations. This issue is discussed further under "Environmental Impacts and Mitigation Measures" below.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

The project would have a significant impact related to hazardous materials if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Produce hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼-mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- Be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, and would result in a safety hazard for people residing or working in the project area; or

- Be within the vicinity of a private airstrip and result in a safety hazard for people residing or working in the project area.

LESS-THAN-SIGNIFICANT IMPACTS

The following CEQA criteria were determined in the Indian Valley Initial Study (see College of Marin website) and this EIR to represent a less-than-significant impact or no impact based on site conditions and the proposed actions of the Bond Spending Implementation Plan.

The project would not cause a safety hazard in the vicinity of a public airport or private airstrip because the project site is not in the vicinity of any airport.

The project would not be located on any site where hazardous materials have been identified.

POTENTIALLY SIGNIFICANT IMPACTS

Impact HAZARDS-1: The routine transportation, use or disposal of hazardous materials associated with the adoption of the Bond Spending Implementation Plan could result in hazardous conditions. (PS)

The proposed Bond Spending implementation Plan for the Indian Valley campus includes renovation of numerous existing structures and construction of a new Main Building Complex. The renovation of the Transportation Technology Complex would likely require some demolition prior to renovation. There are likely to be both hazardous and potentially hazardous construction materials stored and used during the campus renovations that would eventually require disposal. Also, there are potential hazards and risk of fire or explosion associated with campus activities such as in the Transportation Technology Complex. Transportation of hazardous materials to and from the site would also occur along local roads such as Ignacio Boulevard crossing Ignacio Creek and Arroyo Grande creek crossings. The risk of accidental upset and environmental contamination from routine transport, storage, use, and disposal of hazardous and potentially hazardous materials to the public and environment is a potentially significant impact.

One nearby school, San Jose Middle School, is located 0.3 mile east of the Indian Valley campus. Provided that the renovation and construction-related mitigation measures are implemented as recommended below, the proposed project is not expected to create any hazardous conditions for nearby schools.

> *Mitigation Measure HAZARDS-1a: The District shall develop a Demolition and Disposal Plan to reduce hazards related to the demolition, staging, and removal of construction-related and hazardous materials, including building remodeling waste materials. The plan shall include measures for handling the spill of liquids such as fuels or hydraulic fluids as well as*

abatement of hazardous materials and airborne dust. This plan shall be submitted to the California Division of the State Architect (DSA) for approval prior to any demolition.

Mitigation Measure HAZARDS-1b: The Demolition and Disposal Plan for safe renovation of existing structures shall include asbestos dust control and shall incorporate site surveys for the presence of potentially hazardous building materials. The plan shall address both on-site worker protection and off-site resident protection from both chemical and physical hazards.

Mitigation Measure HAZARDS-1c: All contaminated building materials shall be tested for contaminant concentrations and shall be disposed of at appropriate licensed landfill facilities. Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) regulations must be followed for demolition of facilities with minimum quantities listed by the NESHAP of regulated asbestos-containing materials. All demolitions must include notification of the appropriate regulatory agency, even if no asbestos is present at the site, and all demolitions and renovations are "subject" to the Asbestos NESHAP insofar as owners and operators must determine if and how much asbestos is present at the site (EPA, 2006). Prior to obtaining a demolition permit from the Bay Area Air Quality Management District (BAAQMD), an asbestos demolition survey shall be conducted in accordance with the requirements of BAAQMD Regulation 11, Rule 2.

Mitigation Measure HAZARDS-1d: Prior to building demolition, hazardous building materials such as peeling, chipping and friable lead-based paint and asbestos-containing building materials shall be removed in accordance with all applicable guidelines, laws, and ordinances. The plan shall include a program of air monitoring for dust particulates and attached contaminants. Dust control and suspension of work during dry windy days shall be addressed in the plan.

Mitigation Measure HAZARDS-1e: For the impact of flaking and peeling lead-based paint, the requirements of Title 8, California Code of Regulations, Section 1532.1 (T8 CCR 1532.1) shall be followed. These requirements include but are not limited to the following:

(1) Loose and peeling lead-containing paint shall be removed prior to building demolition. Workers conducting removal of lead paint must receive training in accordance with T8 CCR 1532.1.

(2) The lead paint removal project shall be designed by a California Department of Health Services (DHS)-certified lead project designer, project monitor or supervisor.

(3) The District shall prepare a written Lead Compliance Plan that meets the requirements of the lead construction standard by any contractor that affects lead coatings.

(4) Workers who may be exposed above the "Action Level" must have blood lead levels tested prior to commencement of lead work and at least quarterly thereafter for the duration of the project. Workers who are terminated from the project shall have their blood lead levels tested within 24 hours of termination.

(5) A written exposure assessment must be prepared in accordance with T8 CCR 1532.1.

(6) Any amount of lead waste generated, including painted building components, shall be characterized for proper disposal in accordance with Title 22, Section 66261.24.

Mitigation Measure HAZARDS-1f: The District shall apply all Existing Facilities Assessment Hazardous Material Report recommendations for asbestos-containing materials, lead-containing materials, and other hazardous materials. Building-specific recommendations shall be followed prior to demolition, during construction, and during future facility operations. These recommendations include:

(1) Label unidentified hazardous waste.

(2) Store hazardous materials in code-compliant cabinets.

(3) Maintain quantities within limits of fire codes.

(4) Update the Hazardous Materials Report on a regular basis to reflect the actual chemical inventories.

(5) For laboratory sinks, evaluate permitting and requirements by Publicly Owned Treatment Works for acid waste line discharge and pre-treatment, such as dilution tanks.

(6) Test fume ventilation hoods and exhaust systems annually.

(7) Create "chain of responsibility" for hazardous materials/wastes.

(8) Provide complete set of Materials Safety Data Sheets (MSDS) where materials are stored and used.

(9) Inventory and remove fixtures and structural elements that may contain hazardous materials prior to renovation or demolition.

(10) Obtain regulatory agency underground storage tank (UST) closure, if necessary.

Mitigation Measure HAZARDS-1g: The District's Hazardous Materials Business Plan (HMBP) shall be updated for the safe storage and use of all hazardous chemicals. The HMBP shall include the type and quantity of hazardous materials, a site map showing where hazardous materials are

stored and where they may be used and transported from, risks of using these materials, material safety data sheets for each material, a spill prevention plan, an emergency response plan, employee training consistent with Occupational Safety and Health Administration (OSHA) guidelines, and emergency contact information. The District qualifies for the program if it stores a hazardous material equal to or greater than the minimum reportable quantities. These quantities are 55 gallons for liquids, 500 pounds for solids and 200 cubic feet (at standard temperature and pressure) for compressed gases. Some exemptions apply.

The HMBP shall be submitted prior to the start of operation of the new facilities, and must be entirely reviewed and updated at least once every three years, or within 30 days of any significant change. Some of these changes are new emergency contact information, major increases or decreases in hazardous materials storage, and/or changes in location of hazardous materials. Plans shall be submitted to the County of Marin Certified Unified Programs Agency (CUPA), managed by the Marin County Department of Public Works Waste Management Division. The Marin County Department of Public Works Waste Management Division may inspect the College at least once a year to make sure that the HMBP is complete and accurate.

Mitigation Measure HAZARDS-1h: Building spaces shall be designed to handle the intended use, with sprinklers, alarms, vents, and secondary containment structures, where applicable. These systems must pass plan review through the Division of the State Architect.

Mitigation Measure HAZARDS-1i: During construction, the utilities (including sprinkler systems) shall pass pressure and flush tests to make sure they perform as designed. At the end of construction, occupancy shall not be allowed until a final inspection is made by the Novato Fire Protection District for conformance of all building systems with the Fire Code and National Fire Protection Agency Requirements. The inspection shall include testing of sprinklers systems, alarm systems, ventilation and airflow systems, and secondary containment systems. The inspection shall include a review of the emergency evacuation plans. These plans shall be modified as deemed necessary.

Mitigation Measure HAZARDS-1j: All transportation of hazardous materials and hazardous waste to and from the site shall be in accordance with Title 49 of the Code of Federal Regulations, US Department of Transportation (DOT), State of California Department of Transportation (Caltrans), and local laws, ordinances and procedures including placards, signs, and other identifying information.

Implementation of the above mitigation measures would reduce the impact of routine transportation, use, or disposal of hazardous materials to a less-than-significant level. (LTS)

Impact HAZARDS-2: An accidental hazardous materials release could occur on the Indian Valley campus with current campus operations. While the Bond Spending Implementation Plan would reduce the risk of accidental hazardous materials releases by providing for renovations and life safety and general code upgrades to the Transportation Technology Complex in Pomo 1 and 2, the potential remains for such a release. (PS)

Mitigation measures for accidental release of hazardous materials during construction are included in Section 4.4, Hydrology and Water Quality, as related to the implementation of a Stormwater Pollution Prevention Plan (SWPPP). These mitigation measures include implementation of best management practices for preventing the discharge of construction-related pollutants such as diesel fuel, hydraulic oil, lead-based paint, concrete, and asbestos to the environment. Implementation of Mitigation Measures HAZARDS-1a through HAZARDS-1j would also reduce hazards associated with accidents.

Mitigation Measure HAZARDS 2a: The District shall check the State and federal lists of regulated substances for chemicals that pose a major threat to public health and safety or the environment because they are highly toxic, flammable, or explosive. This list is available from the Marin County Department of Public Works Waste Management Division.

Should the campus qualify for the California Accidental Release Program (CalARP), as determined in consultation with Marin County Department of Public Works Waste Management Division, the District shall complete a CalARP registration form and submit it to the Environmental Health Department. Following registration, the District shall submit a Risk Management Plan (RMP). RMPs are designed to handle accidental releases and ensure that businesses have the proper information to provide to emergency response teams if an accidental release occurs. The storage or handling of more than a threshold quantity (TQ) of a regulated substance requires the development and implementation of a Risk Management Plan.

RMPs describe impacts to public health and the environment if a regulated substance is released near schools, residential areas, hospitals, and child care facilities. RMPs must include procedures for keeping employees and customers safe, handling regulated substances, training staff, maintaining equipment, storing materials safely, and responding to an accidental release.

Mitigation Measure HAZARDS-2b: Employee training shall include spill prevention, clean-up, and notification procedures in accordance with the

Occupational Health and Safety Administration (OSHA) and the State level CAL-OSHA. This includes having sufficient clean-up materials such as spill kits, absorbent rags, and sand available to staff for containing and cleaning up spills and leaks, as well as procedures for proper disposal of contaminated materials.

Implementation of the combination of these mitigation measures would reduce the impact of accidental releases of hazardous materials to a less-than-significant level. (LTS)

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4.6 CULTURAL RESOURCES

INTRODUCTION

This section evaluates the proposed project's potential impacts on cultural resources. Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or cultural value due to their historical significance. The California Environmental Quality Act (CEQA) requires that effects on cultural resources by discretionary projects be considered in the planning process.

This section contains (1) a summary of the project area's cultural setting, and (2) a discussion of potential impacts on cultural resources and recommended mitigation measures to reduce such impacts to less-than-significant levels.

ENVIRONMENTAL SETTING[1]

The prehistoric, ethnographic, and historical contexts for the project area and vicinity are summarized below. Relevant State and local regulations are also reviewed, and study results are discussed.

CULTURAL RESOURCE SETTING OF THE PROJECT AREA

Prehistory

When the first native people arrived in the San Francisco Bay Area roughly 10,000 years ago, the land and environment were very different from what they are today. Before 10,000 years ago, the Sacramento River flowed through the Golden Gate and crossed a coastal plain before reaching the Pacific, many miles west of the modern coastline. There was no bay before 8,000 years ago, and many of the marshlands were not even present before 3,000 years ago. This special circumstance of a rapidly evolving environment created a unique set of conditions that greatly affected how and where the native peoples lived. Their ancient villages and resource collection areas have become what scientists call archaeological sites.

Beginning in 1906, Nels C. Nelson, working with the University of California, Berkeley, did the first regional study of primarily San Francisco Bay archaeological sites. Nelson identified 425 sites, consisting mostly of mounds of shell along the San Francisco Bay and San Pablo Bay shorelines and associated estuaries. Many of these shell mounds contained the remains of the occupants and other artifacts associated with their daily lives. During the early decades of

[1] Adapted from *Existing Facilities Assessment: Archaeological Resources for the College of Marin Indian Valley Campus,* prepared by Peak and Associates (December 2006).

the 20th century, archaeologists excavated many of these shell mounds and through a scientific technique developed during the 1950s, radiocarbon dating, the approximate years that each village and resource collection area were used were determined.

With this information in hand, archaeologists could develop a chronology (time-line) of the region's prehistoric cultures. By 1948, Richard Beardsley had tentatively defined cultural sequences for Central California that he later refined in 1954 (Beardsley, 1948, 1954). A generation later, another archaeologist, David Fredrickson, once again attempted to make sense of the region's prehistory with his own synthesis (Fredrickson, 1973).

The Indian Valley campus and vicinity are known to contain prehistoric archaeological sites.

The Indian Valley campus and vicinity are known to contain prehistoric archaeological sites. Former College of Marin professor John McBeath excavated C-113, a prehistoric habitation site on the Indian Valley campus, and identified stone tools, stone tool debris, and human remains (Peak and Associates, 2006). Another prehistoric habitation site, CA-MRN-471, is near the campus and was excavated by Thomas Jackson (1972). The site includes a variety of artifacts made of shell, bone, and stone; structural remains; and human remains. A radiocarbon date indicates that CA-MRN-471 was occupied from at least A.D. 1350.

Ethnography

The Coast Miwok occupied what is now Marin County and part of Sonoma County, as far north as the vicinity of Sebastopol. There is extensive coastline in this territory and resources from the sea and salt marshes were important in Coast Miwok subsistence. Sea mammals were not part of the diet but various species of fish were taken with nets, seines, weirs, spears, and line-with-gorge technologies, as appropriate. Even more important in the diet were clams and some species of mussel.

The most important food resource, as with most California Indians, was the acorn. It was leached to remove most of the tannic acid and then ground into meal and prepared in various ways. It was particularly valuable because the meal could be stored against times of shortage of other foods. Despite the relative abundance of their food sources, winter and early spring were still times of short food supply, and stored acorns, along with kelp harvested along the coast, were then the primary foods (Kelly, 1978).

Villages were situated so as to be near food resources at various times of year. The Coast Miwok moved among residences on the coast, around salt or freshwater marshes and on interior streams so that they would be close to the most abundant food supply available at a particular season. Dwellings were conical brush-on-frame structures capable of sheltering up to ten individuals. Other structures included semi-subterranean sweathouses, which served as something of a men's club, and – at major villages – a dancehouse for religious

ceremonies. The dancehouse was basically the same construction as the sweathouse, only larger.

Archaeology has provided an extensive collection of the stone tools that were used, but it is clear from ethnology that basketry and cordage were used for the majority of utilitarian objects. These materials do not preserve well, so they are uncommon in archaeological sites. Basket-making was a highly developed skill and baskets were woven tightly enough to hold water. Cooking of acorn mush was accomplished by dropping hot rocks into baskets containing the mush. Cordage was used for the variety of nets used in taking fish, birds, and small mammals.

Through much of aboriginal California, shell beads served as a form of currency. As a coastal people, the Coast Miwok had access to the raw material and bead manufacturing was an important industry because it provided currency to trade for goods from neighboring groups. This allowed the Coast Miwok to import obsidian from the Wappo to the north to use in making arrowheads and other edged tools. Chert was used to form more utilitarian edged implements, but obsidian was the preferred material. Yellow ocher was also obtained from the Wappo for paint and venison and magnesite cylinders were obtained from the Pomo (Kelly, 1978).

The traditional lifeways of the Coast Miwok were disrupted after the founding of the mission at San Francisco in 1776 and the later missions at San Rafael and Sonoma. Forced movement of Coast Miwok to the missions and the determination of the friars to convert the natives to Christianity and destroy all vestiges of their former life, along with epidemic diseases of the whites, soon left few natives who could remember the pre-contact culture.

History

The Indian Valley campus lies on lands of the Rancho San Jose land grant, awarded to Don Ignacio Pacheco in 1840 by Governor Alvarado. Pacheco was a native Californian, born in San José in 1808. He became a soldier like his father before him, rising to the rank of sergeant in ten years of service. At the end of his military service in 1838, he settled on a tract of land south of the Feliz grant of Rancho de Novato and claimed the land. In 1846, Pacheco served as Alcalde at San Rafael, holding court in the large hall of the San Rafael Arcángel mission. Pacheco received a patent for his grant of 6,659 acres from the United States government in 1861. When he died, he left his family home and 600 acres of land to his daughter, and his five sons divided the rest of the land (Hoover, Rensch and Rensch, 1970).

The 1873 map of Marin County shows the land as a portion of the 937-acre holding of G. Pacheco, apparently Gumesindo, the second eldest son of Don Ignacio. The ranch headquarters for Gumesindo Pacheco appear to be located

on what is now the campus, although it is difficult to confirm considering the scale of the 1873 map. It is not known how long the family retained the land.

Historic Architecture

No historic architecture exists on the Indian Valley campus.

No historic architecture exists on the Indian Valley campus. The campus buildings were constructed in the 1970s.

REGULATORY SETTING

California Environmental Quality Act (CEQA) and Other State Regulations

CEQA defines a "historical resource" as a resource that meets one or more of the following criteria: 1) listed in, or determined eligible for listing, in the California Register of Historical Resources (California Register); 2) listed in a local register of historical resources as defined in Public Resources Code (PRC) Section 5020.1(k); 3) identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or 4) determined to be a historical resource by a project's lead agency (CEQA Section 21084.1 and CEQA Guidelines Section 15064.5(a)). A historical resource consists of:

> "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California…. Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources." (CEQA Guidelines Section 15064.5(a)(3))

In accordance with CEQA Guidelines Section 15064.5(b), a substantial adverse change in the significance of a historical resource is a significant effect on the environment.

CEQA requires a lead agency to determine if an archaeological cultural resource meets the definition of a historical resource, a unique archaeological resource, or neither (CEQA Guidelines Section 15064.5(c)). Prior to considering potential impacts, the lead agency must determine whether an archaeological cultural resource meets the definition of a historical resource in CEQA Guidelines Section 15064.5(c)(1). If the archaeological cultural resource meets the definition of a historical resource, then it is treated like any other type of historical resource in accordance with CEQA Guidelines Section 15126.4. If the archaeological cultural resource does not meet the definition of a historical resource, then the lead agency determines if it meets the definition of a unique archaeological resource as defined at CEQA Section 21083.2(g). In practice, however, most archaeological sites that meet the definition of a unique archaeological resource

will also meet the definition of a historical resource (Bass, Herson, and Bogdan, 1999:105). Should the archaeological cultural resource meet the definition of a unique archaeological resource, then it must be treated in accordance with CEQA Section 21083.2. If the archaeological cultural resource does not meet the definition of a historical resource or an archaeological resource, then effects to the resource are not considered significant effects on the environment (CEQA Guidelines Section 15064.5(c)(4)).

California Health and Safety Code (HSC) Section 7050.5 states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Public Resources Code (PRC) Section 5097.5 provides for the protection of cultural and paleontological resources. This PRC section prohibits the removal, destruction, injury, or defacement of archaeological and paleontological features on any lands under the jurisdiction of State or local authorities.

Marin Community College District Policy 8.0025 (Excavations in Midden Areas)

Policy 8.0025, adopted by the Marin Community College District on August 5, 1981 and revised on April 9,1985, identifies appropriate procedures for excavating in Native American middens on College of Marin campuses. The policy states that the campus resident archaeologist shall be notified ten days prior to excavating in areas that have been designated as "fragile areas" by the College. Such notification shall occur when disturbing soil 6 inches below the surface or 1 inch below the surface in extremely fragile areas. The resident archaeologist shall assess the potential impact of the proposed excavation. If it is determined that there is no significant archaeological impact of the proposed work, this shall be confirmed in writing by the resident archaeologist within ten days and excavation may proceed. If it appears that there is a significant archaeological impact, this shall be documented and specific mitigation measures shall contain significance for a specified period, not to exceed 45 days.

STUDY RESULTS

LSA Associates, Inc. (LSA) completed an archaeological study of the project area. The purpose of this study was to (1) identify archaeological sites that may meet the California Environmental Quality Act (CEQA) definition of a historical or

archaeological resource and may be affected by the proposed project, (2) identify potentially significant impacts of the proposed project on historical and archaeological resources and human remains, and (3) provide program-level mitigation measures for potentially significant impacts on historical and archaeological resources and human remains.

The cultural resources study included background research, including a records search and a literature review. The results of this study are summarized below.

Archaeological Sites On Campus

Background research identified three documented archaeological sites within the Indian Valley campus: C-113, C-114, and PA-06-44.[2] The locations of C-113 and C-114 correspond to "areas of archaeological concern" designated on a map and memo prepared by former College of Marin professor John McBeath (1978). McBeath excavated at C-113 and recovered flaked stone and human remains. Presently, a parking lot is at the reported location of C-113. The reported location of C-114 is partially covered by walkways and a parking lot. Peak and Associates, Inc. (2006) recently visited the reported location of C-114 and identified "unusually dark-colored sediment," but no surface prehistoric artifacts. Historical or modern artifacts and features were identified, however, consisting of a small concrete footing, a metal wire embedded in two bay trees, a concrete water trough, concrete fragments, and the remains of a small water tank. An archaeologist with LSA Associates, Inc. recently conducted a brief field review in the vicinity of the reported locations of C-113 and C-114 and identified midden containing shell, bone, obsidian, and heat-affected rock. PA-06-44 consists of a scatter of chert debitage and a chert core on the western edge of the project area.

In addition to these three documented archaeological sites, Peak and Associates, Inc. (2006) identified shell midden on campus, which may have been redeposited from another location.[3]

Peak and Associates' cultural resources study (2006) is the only archaeological survey to be done of the Indian Valley campus project area. The Peak study

[2] The site identifiers "C-113" and "C-114" were assigned by the Northwest Information Center (NWIC) of the California Historical Resources Information System. "C" numbered sites indicate resources which have been reported to the NWIC but not officially recorded on California Department of Parks and Recreation form 523 (DPR 523) records. "PA-06-44" is the temporary field number assigned for this resource by Peak and Associates, Inc., who first identified the site in July 2006.

[3] The reported locations of archaeological resources within the Indian Valley campus project area are shown on maps provided to the District. The locations of archaeological sites should not be disclosed to the public to deter "pot-hunting," vandalism, and other activities that could have a detrimental effect on the integrity of the resource. The legal authority to restrict cultural resources information is in California Government Code Sections 6254.10 and 6254(r) and California Government Code of Regulations Section 15120(d).

resulted in the identification of two previously unrecorded sites within the project area: a lithic scatter (PA-06-44) and an area with shell midden.

Archaeological Sites in Project Area

Two prehistoric archaeological sites have been recorded within a ¼-mile of the project area. These sites, along with the documented sites on the Indian Valley campus, suggest intensive use of the Arroyo San Jose watershed during prehistory. CA-MRN-471 is near the project area and contains archaeological deposits indicative of a habitation site. Thomas Jackson excavated CA-MRN-471, also known as San Jose Village, in the early 1970s, uncovering evidence of four semi-subterranean structures; *Olivella*, clam disc and steatite beads; *Haliotis* ornaments; bone tools, such as awls and scapula "saws"; numerous projectile points (e.g., "arrowheads"); mortars and pestles; stone pipes; and grooved stones, probably used as net sinkers. Radiocarbon dates obtained from charcoal recovered during Jackson's (1974) excavation indicates San Jose Village was occupied from approximately A.D. 1350. Approximately ¼-mile northwest of the project area is CA-MRN-488, a linear distribution of chert and obsidian debitage and tools.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

For the purposes of this Draft EIR, development of the project site would present a significant cultural resources impact if the project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse change in the significance of a archaeological resource pursuant to Section 15064.5; or
- Disturb any human remains, including those interred outside of formal cemeteries.

LESS-THAN-SIGNIFICANT IMPACTS

The project would not have any impacts on historic resources (structures greater than 50 years in age).

POTENTIALLY SIGNIFICANT IMPACTS

The proposed project may have potentially significant impacts on archaeological deposits and human remains. Possible impacts and recommended mitigation measures are discussed below.

Impact CULTURAL-1: Ground-disturbing activities associated with the proposed project have the potential to affect prehistoric archaeological deposits that have been identified on the Indian Valley campus. (PS)

The campus contains three documented prehistoric archaeological sites: C-113, C-114, and PA-06-44. Additionally, two undocumented archaeological sites, consisting of midden in the vicinity of the reported locations of C-113 and C-114 and a midden deposit on the main campus, were identified during recent field reviews. The exact boundaries of archaeological sites in the Indian Valley campus project area have not been determined.

Construction of parking lots, walkways, and landscaping has disturbed archaeological deposits on the Indian Valley campus. These deposits, however, may retain sufficient integrity to qualify as historical or archaeological resources as defined in CEQA Sections 21084 and 21083.2(g). Project ground-disturbing activities, including but not limited to landscape improvements, creek improvements, construction of a geothermal field and Main Building Complex, and upgrading of pathways, would be necessary to achieve project objectives. These ground-disturbing activities have the potential to disturb or destroy prehistoric archaeological deposits, which would result in a substantial adverse change in the deposits' significance. As described in CEQA Guidelines Section 15064.5(b), a substantial adverse change in the significance of a historical resource occurs when the characteristics that convey the resource's historical significance and justify its eligibility for or inclusion in the California Register are materially impaired. Material impairment may result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings (CCR Title 14, Chapter 3, Section 15064.5(b)(1)). Implementation of Mitigation Measure CULTURAL-1 would ensure that impacts on archaeological deposits that qualify as historical resources or unique archaeological resources under CEQA would be reduced to less-than-significant levels.

> *Mitigation Measure CULTURAL-1: Once specific development plans are finalized a qualified archaeologist shall review such plans and prepare a Treatment Plan (Plan) that provides specific treatments for areas where ground disturbance would occur on campus. The Plan shall take into account locations where archaeological deposits have been identified on campus relative to where ground-disturbing activities would occur. The Plan shall outline the appropriate courses of action, which may include, but are not necessarily limited to, preconstruction archaeological testing—necessary to determine the presence/absence of archaeological deposits and to evaluate whether such deposits qualify as historical or unique archaeological resources—and monitoring of ground-disturbing activities. The Plan shall identify the appropriate courses of action should archaeological deposits be identified during preconstruction archaeological testing or during project implementation.*

Archaeological deposits identified during preconstruction archaeological testing or project implementation shall be evaluated to determine if they qualify as historical resources or unique archaeological resources as defined in CEQA. If archaeological deposits are determined to be historical resources or unique archaeological resources, and adverse effects on such resources are anticipated, mitigation of project impacts on the resource shall occur. Mitigation may include, but is not limited to, thorough recording on Department of Parks and Recreation form 523 records (DPR 523), data recovery excavation, and public outreach.

If preconstruction archaeological testing is to occur at or within the immediate vicinity of a prehistoric archaeological site, a qualified cultural resources consultant approved by the Federated Indians of Graton Rancheria shall be retained to monitor the excavations to ensure Native American artifacts, skeletal remains, and cremated remains are treated appropriately and that appropriate regulatory procedures for the treatment of human remains are followed. (LTS)

Impact CULTURAL-2: Ground-disturbing activities associated with the proposed project have the potential to affect previously unidentified historic and prehistoric archaeological deposits on the Indian Valley campus. (PS)

Significant historic-period archaeological deposits have not been identified on the Indian Valley campus.[4] Given the historical use of the project area, however, historic-period archaeological deposits may exist on campus. The 1873 map of Marin County shows the ranch headquarters of Gumesindo Pacheco, son of Don Ignacio Pacheco, possibly at the current location of the Indian Valley campus, and there is a possibility that subsurface deposits associated with his ranch may exist on campus. Such deposits may include, but are not limited to, wood, stone, walls and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramics, metal, and other refuse. Additionally, the project area may contain prehistoric archaeological sites not identified by previous studies. Implementation of Mitigation Measure CULTURAL-2 would ensure that impacts on previously unidentified archaeological deposits would be reduced to less-than-significant levels.

Mitigation Measure CULTURAL-2: If historic or prehistoric archaeological deposits are encountered during preconstruction testing (in areas identified by the Treatment Plan—see Mitigation Measure CULTURAL-1),

[4] Peak and Associates, Inc. identified historical or modern deposits within the reported boundary of C-114, consisting of a small concrete footing, a metal wire embedded in two bay trees, a concrete water trough, concrete fragments, and the remains of a small water tank. None of these deposits appear eligible for listing in the California Register of Historical Resources, although further study would be necessary to verify this.

a qualified archaeologist shall evaluate such deposits to determine if they qualify as historical or unique archaeological resources as defined in CEQA Sections 21084.1 and 21083.2(g). If such deposits qualify as neither an historical nor a unique archaeological resource (i.e., they are not significant), no further protection of the deposits is necessary. If the deposits are determined to be significant, project effects on such deposits shall be avoided or impacts must be mitigated. Mitigation may include, but is not limited to, thorough recording on Department of Parks and Recreation form 523 records (DPR 523), data recovery excavation, and public outreach.

If archaeological deposits are encountered during project implementation, all work within 25 feet of the discovery shall be redirected and a qualified archaeologist contacted (if an archaeological monitor is not present) to assess the finds and make recommendations. Project personnel shall not collect or move any archaeological materials. It is recommended that adverse effects on such deposits be avoided by project activities. If such deposits cannot be avoided, they shall be evaluated to determine if they qualify as historical or unique archaeological resources. If the deposits are not significant, avoidance is not necessary. If the deposits are significant, they shall be avoided or adverse effects must be mitigated. Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results, and provide recommendations for the treatment of the archaeological materials discovered. The report shall be submitted to the Director of Modernization and the Northwest Information Center. (LTS)

Impact CULTURAL-3: Ground-disturbing activities associated with the proposed project have the potential to affect human remains on the Indian Valley campus. (PS)

Archaeological excavations by former College of Marin professor John McBeath on the Indian Valley campus have yielded human remains. The remains are believed to have been recovered in the general vicinity of Parking Lot 3. There is a high possibility that additional human remains are present within the project area. Implementation of Mitigation Measure CULTURAL-3 would ensure that impacts on human remains would be reduced to less-than-significant levels.

Mitigation Measure CULTURAL-3: If human remains are encountered during project implementation or preconstruction archaeological testing, work within 25 feet of the discovery shall be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted (if an archaeologist is not on-site) to assess the situation. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission shall identify a Most Likely Descendant (MLD) to inspect the site and provide

recommendations for the proper treatment of the remains and associated grave goods.

Upon completion of the assessment, the archaeologist shall prepare a report documenting the methods and results, and provide recommendations for the treatment of the human remains and any associated cultural materials, as appropriate and in coordination with the recommendations of the MLD. The report shall be submitted to the Director of Modernization and the Northwest Information Center. (LTS)

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4.7 TRANSPORTATION

INTRODUCTION

This section addresses potential transportation impacts related to the proposed adoption of the Bond Spending Implementation Plan for the Indian Valley campus, based on data collected and site visits conducted at the Indian Valley campus from 2005 to 2007. Observations of pedestrian, bicycle, and motor vehicle conditions were made and parking occupancy counts were conducted. The analysis evaluates traffic conditions at three intersections near campus. Potential transportation impacts resulting from the project, including those occurring during construction, are described in this section.

ENVIRONMENTAL SETTING

Pathways in the central campus are in good condition; outside the central area, many pathways need repairs.

PEDESTRIAN CIRCULATION

Figure 4.7-1 shows the existing circulation network at the Indian Valley campus. Extensive minor and major pedestrian pathways exist throughout the campus. Pathways in the central campus are in good condition; outside the central area, many pathways need repairs. Recreational visitors currently take advantage of the informal trail system on the District's property. This system includes fire roads and hiking trails (see Figure 4.7-1). These unpaved hiking and biking trails connect with outlying areas such as lands owned by the Marin County Open Space District.

BICYCLE CIRCULATION

Bicycling is a primary mode of transport for many college campuses, although the dispersed living patterns of College of Marin students limit widespread bicycling for transportation to and from the Indian Valley campus. Figure 4.7-2 shows existing and planned bicycle routes that provide access to the Indian Valley campus. As shown in Figure 4.7-2, the campus is well-served by existing bicycle lanes/shoulders[1] on Ignacio Boulevard and by proposed bicycle lanes/shoulders along Sunset Parkway and Novato Boulevard.

[1] Bike lanes are distinguished from bicycle shoulders by the following distinctions: Bike lanes are 4 to 6 feet wide with "bike lane" signage and pavement markings. Shoulders are often wider than 6 feet and generally do not include "bike lane" pavement markings.

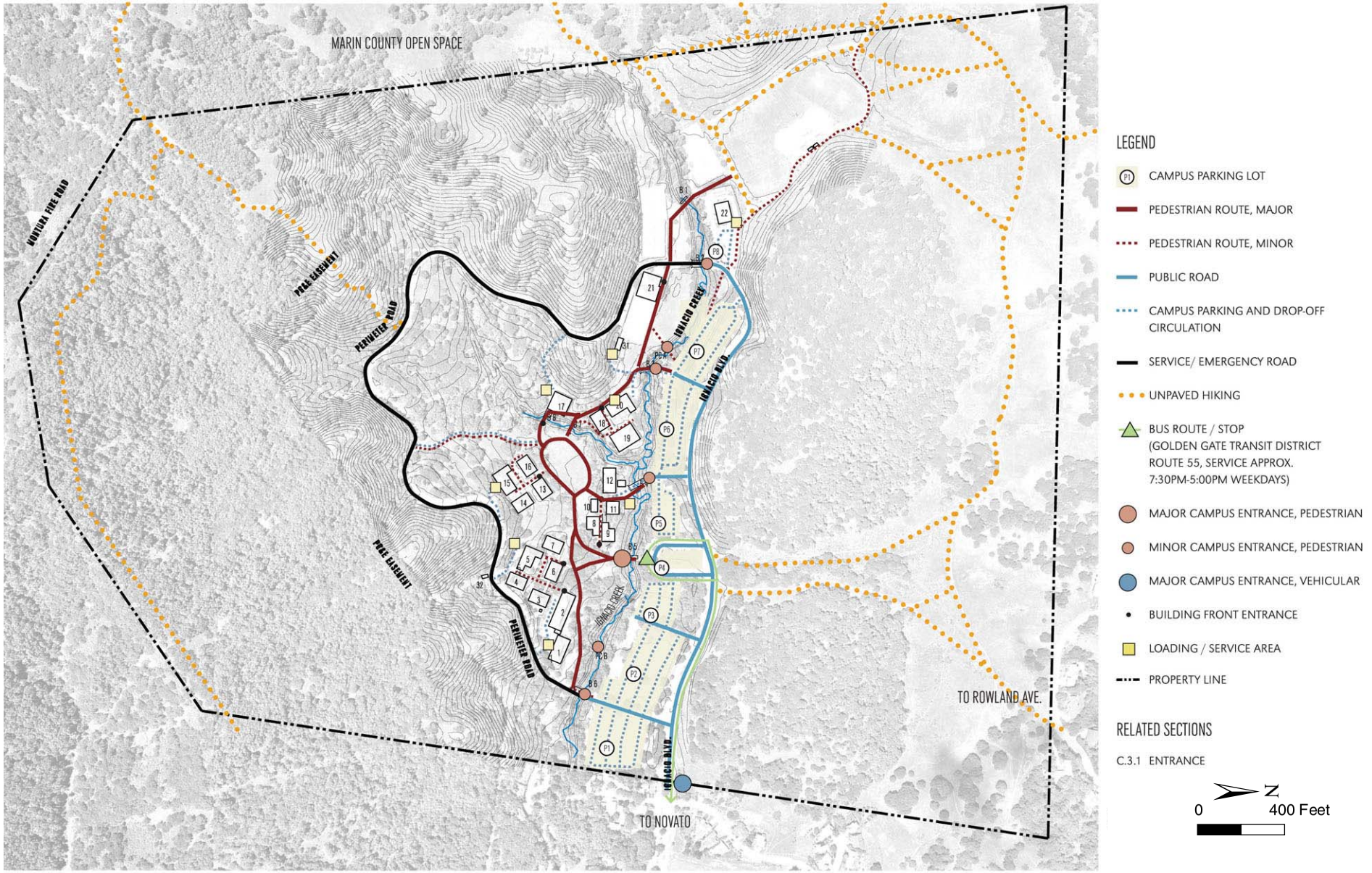
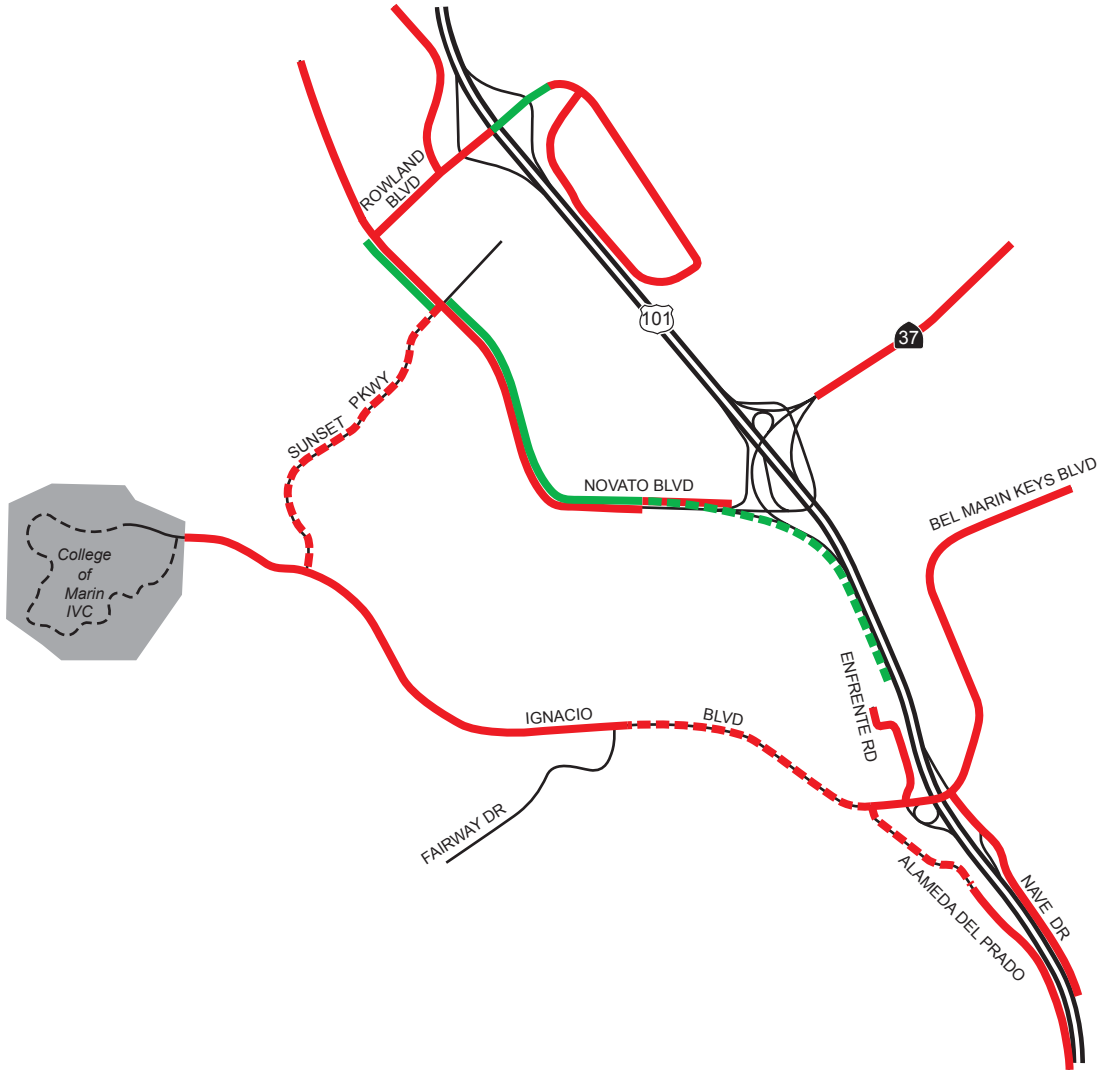


Figure 4.7-1

SOURCE:Steinberg Architects, 2006

EXISTING CIRCULATION NETWORK INDIAN VALLEY CAMPUS



LEGEND:

- Existing Bike Path
- Proposed Bike Path
- Existing Bike Lanes/Shoulders
- Proposed Bike Lanes/Shoulders

N

Not to scale

Figure 4.7-2

EXISTING AND PLANNED BICYCLE ROUTES
INDIAN VALLEY CAMPUS

SOURCE: Fehr and Peers, 2007

MOTOR VEHICLE CIRCULATION

Project Site Location

The Indian Valley campus is located at the western terminus of Ignacio Boulevard, a four-lane roadway that connects the campus to the U.S. Highway 101 corridor. Within the campus property, Ignacio Boulevard transitions from a four-lane to a two-lane roadway. The roadway provides access to the eight campus parking lots.

Study Intersections and Level of Service

Traffic operations at intersections are typically described in terms of "Level of Service." Level of service is a qualitative measure of the effect of several factors on traffic operating conditions, including speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort, and convenience. It is generally measured quantitatively in terms of vehicular delay and described using a scale that ranges from Level of Service (LOS) A to F, with LOS A representing essentially free-flow conditions and LOS F indicating over-capacity conditions with substantial congestion and delay.

The analysis of study intersections was conducted using methods described by the Transportation Research Board (TRB) in the 2000 Highway Capacity Manual (HCM) (TRB, 2000). For intersections, level of service is based on "control delay." Control delay is the delay directly associated with the traffic control device (i.e., a stop sign or a traffic signal) and specifically includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. These delay estimates are considered meaningful indicators of driver discomfort and frustration, fuel consumption, and lost travel time. Tables 4.7-1 and 4.7-2 present the relationship between level of service and control delay for signalized and unsignalized intersections, respectively.

This analysis evaluates traffic conditions at three intersections near campus. At each study intersection, AM and PM peak period traffic counts were conducted and the peak hour level of service for each intersection was calculated. Figure 4.7-3 shows the location of the three study intersections, which adjoin the Indian Valley campus:

1. Ignacio Boulevard / Sunset Parkway
2. Ignacio Boulevard / Enfrente Road / U.S. Highway 101 Southbound Ramp
3. Novato Boulevard / Sunset Parkway

Table 4.7-3 shows the existing level of service at each study intersection. As shown, these intersections generally operate acceptably, although the Ignacio Boulevard / Sunset Parkway intersection operates unacceptably during the AM peak hour. The morning delay at this stop-controlled intersection is primarily attributed to trips generated by the drop-offs at San Jose Middle School adjacent

Table 4.7-1 Signalized Intersection Level of Service (LOS) Criteria

LOS	Average Control Delay (seconds/vehicle)	Description
A	< 10.0	Operations with very slight delay, with no approach phase fully utilized.
B	10.1 – 20.0	Operations with slight delay and an occasional approach phase is fully utilized.
C	20.1 - 35.0	Operations with average delay. Individual cycle failures begin to appear.
D	35.1 – 55.0	Operations with tolerable delay. Many vehicles stop and individual cycle failures are noticeable.
E	55.1 - 80.0	Operations with high delay, up to several signal cycles. Long queues form upstream of intersection.
F	> 80.0	Operation with excessive and unacceptable delays. Volumes vary widely depending on downstream queue conditions.

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209, 2000.

Table 4.7-2 Stop-Controlled Intersection Level of Service (LOS) Criteria

LOS	Average Control Delay (seconds/vehicle)	Description
A	< 10.0	Minimal delay for stop-controlled approaches.
B	10.1 – 15.0	Very light congestion; short delays.
C	15.1 – 25.0	Light congestion; average delays.
D	25.1 – 35.0	Significant congestion on critical approaches, but intersection is functional. Moderate to lengthy delays.
E	35.1 – 50.0	Severe congestion with some longstanding queues on critical approaches. Extremely lengthy delays.
F	> 50.0	Extreme congestion, with very high delays and lengthy queues unacceptable to most drivers.

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209, 2000.

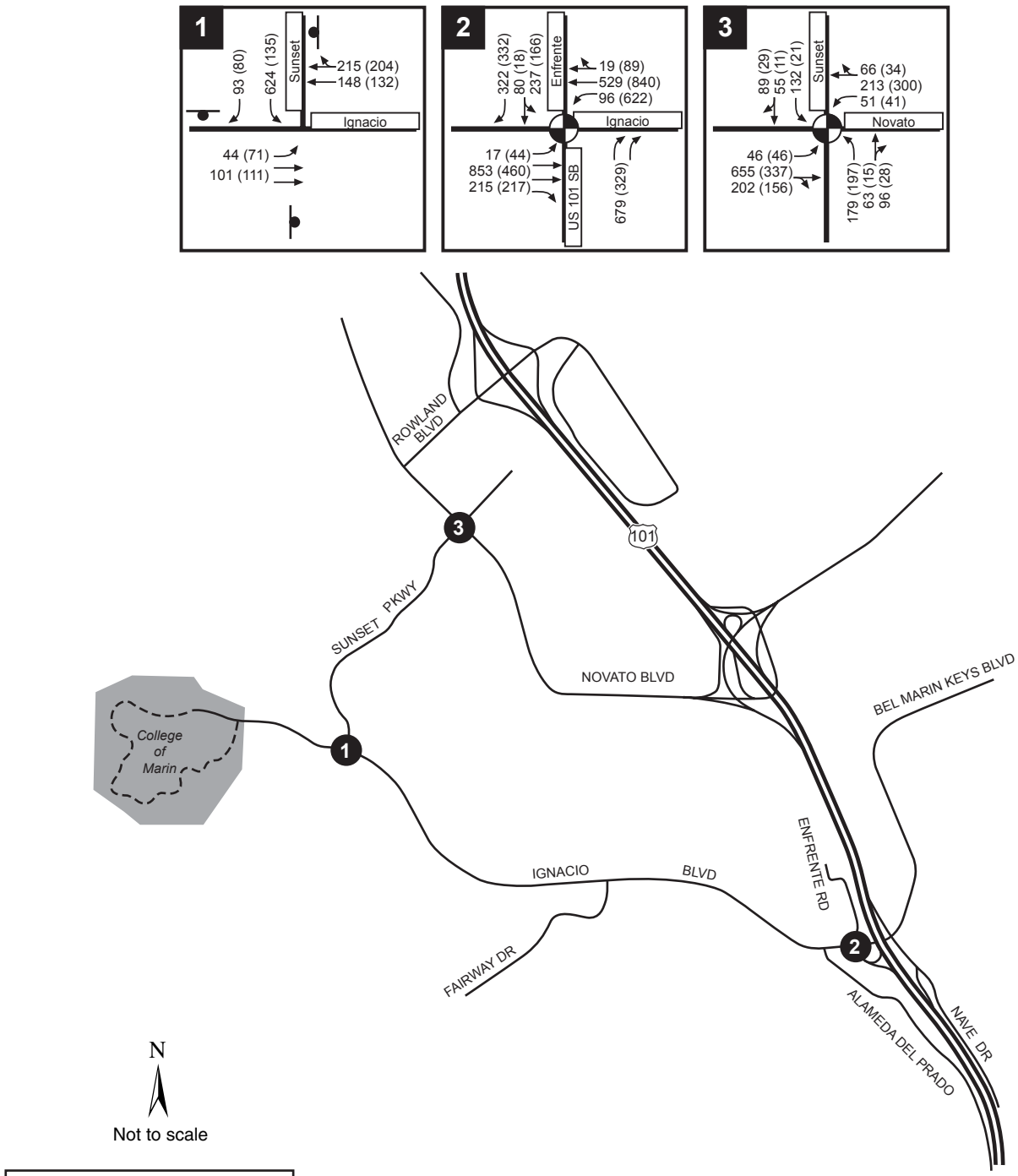


Figure 4.7-3

STUDY INTERSECTIONS AND PEAK HOUR TRAFFIC VOLUMES
INDIAN VALLEY CAMPUS

SOURCE: Fehr and Peers, 2007

Table 4.7-3 Intersection Level of Service – Existing Conditions

Intersection	Traffic Control	AM Peak Hour LOS (Delay/Vehicle)[a]	PM Peak Hour LOS (Delay/Vehicle)[a]
1. Ignacio Boulevard / Sunset Parkway	All-way Stop	F (>50)	A (9.9)
2. Ignacio Boulevard / Enfrente Road / U.S. Highway 101 SB Ramp	Signalized	B (19.1)	C (25.9)
3. South Novato Boulevard / Sunset Parkway	Signalized	C (21.1)	B (17.3)

[a] Average control delay is reported. Average delay measured in seconds per vehicle.
Source: Fehr & Peers, 2007.

to this intersection and traffic exiting Sunset Parkway to travel east on Ignacio Boulevard towards U.S. Highway 101. The intersection of Ignacio Boulevard / Enfrente Road / U.S. Highway 101 Southbound Ramp is part of a system of signals including the northbound ramps, Alameda del Prado and Nave Drive. The system operates at LOS D.

Motor Vehicle Parking

The Indian Valley campus includes a total of approximately 900 parking spaces. Parking occupancy data at the Indian Valley campus were derived from 48-hour traffic volume machine counts that were conducted for traffic entering and exiting the campus on Ignacio Boulevard on Tuesday, October 18, and Wednesday, October 19, 2005. The number of occupied parking spaces was extrapolated for specific time periods. Data are presented for the morning (9:00 AM), mid-afternoon (2:00 PM) and evening (6:00 PM) periods. Results are displayed in Table 4.7-4.

The campus has excess parking capacity.

Observations conducted on Wednesday, September 21, 2005 found that parking occupancy is generally spread across Lots 2 through 7 during daytime hours, with a slightly higher concentration of occupied spaces near the main turnaround area and near the pool, while occupancy of Lot 8 increased during evening hours. Lot 1 was found to be virtually unoccupied during all hours.

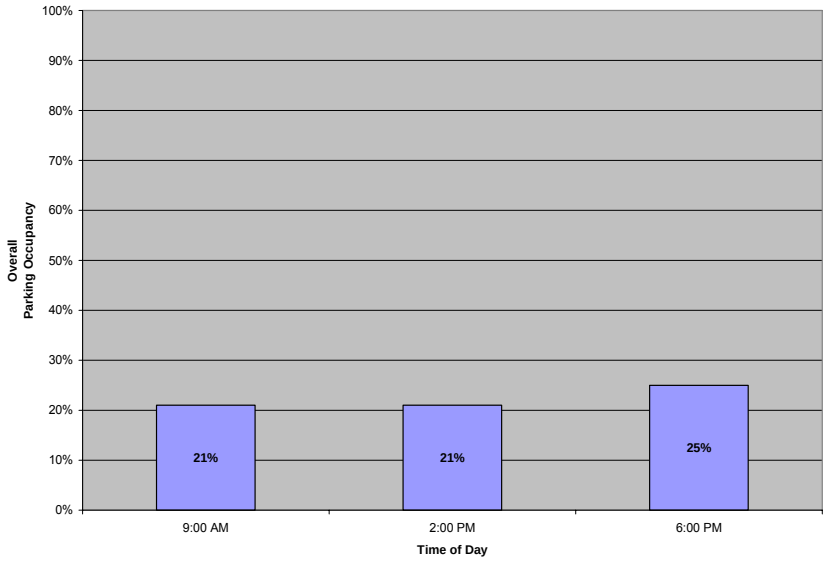
As shown in Figure 4.7-4, based on data collected on Tuesday, October 18, 2005, the peak parking occupancy is 21 percent during the 9:00 AM and 2:00 PM periods, while the peak occupancy increases to 25 percent at 6:00 PM.

The Indian Valley campus has excess parking capacity, indicating that a substantial reduction in parking supply would not result in a shortage in parking.

Table 4.7-4 Parking Occupancy at Indian Valley Campus

Date	Total Spaces	9:00 AM Occupied	2:00 PM Occupied	6:00 PM Occupied
Tuesday, October 18, 2005	900	188	187	227
Wednesday, October 19, 2005	900	176	192	155

Figure 4.7-4 Percent Occupied Parking Spaces at Indian Valley Campus: Tuesday, October 18, 2005



This creates an opportunity to focus redevelopment within existing parking lot areas, which would provide the added benefit of reducing walking distances on campus and creating a denser campus core.

PUBLIC TRANSIT

Transit does not play a large role in accommodating local trips within Marin County. Key factors limiting greater use of transit include dispersed land use patterns, the prevalence of free or inexpensive parking, and long headways between buses.

As shown on Table 4.7-5, the Indian Valley campus is currently served by one bus route operated by the Golden Gate Transit District. Headways between buses are 60 minutes. This bus route serves a bus stop located within a drop-off

Table 4.7-5 Golden Gate Transit Services: Indian Valley Campus

Route	Frequency	Type	Notes
55	Weekdays only 7:00 AM to 8:00 PM Every 60 minutes	Marin County Local Route	Bel Marin Keys to Indian Valley Campus and Downtown Novato

Note: College of Marin (Kentfield or Indian Valley campus) is a time point on all schedules.
Source: Fehr & Peers, 2005.

area located adjacent to Parking Lot 4. Figure 4.7-1 shows the path of bus travel along Ignacio Boulevard and the location of the campus bus stop.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

The project would have a significant transportation impact if it would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity; or
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The *Novato General Plan* establishes level of service standards for use in evaluating the impacts of proposed development projects, making improvements to the roadway system, and determining appropriate traffic impact fees (City of Novato, 1996). According to the *Novato General Plan*, the City's level of service standards are as follows:

- At intersections with signals or all-way stop signs, maintain LOS D or better operations.
- At intersections with stop signs on side streets only, maintain LOS E or better operations for controlled movements.

According to the *Novato General Plan*, mitigation measures that reduce side street delay, such as traffic signals, all-way stops, and/or center two-way left-turn lanes, will be considered only when LOS F conditions are projected for side street traffic. In addition, the volume of traffic should also be considered when evaluating the severity of side street traffic operations.

Therefore, for purposes of this analysis, a project impact on a signalized intersection is considered significant if:

- The proposed project causes an intersection operating at acceptable level of service under existing or future (without project) conditions to deteriorate to unacceptable level of service during the AM or PM peak hour;
- The proposed project exacerbates unacceptable level of service at an intersection under existing conditions by increasing the average delay by five or more seconds per vehicle during the AM or PM peak hour, or the proposed project causes an intersection operating at unacceptable level of service under existing conditions to deteriorate one letter grade during the AM or PM peak hour; or
- The proposed project contributes traffic to an intersection expected to experience a cumulatively significant impact (i.e., future traffic volumes expected to cause unacceptable operations at a study intersection during the AM or PM peak hour) and the addition of project traffic would increase the forecasted average delay by five or more seconds.

For unsignalized intersections, a project impact is considered significant if:

- Any of the criteria for signalized intersections were met, and the expected AM or PM peak hour traffic volumes at the intersection are expected to meet the peak hour volume traffic signal warrant criteria contained in the *Manual on Uniform Traffic Control Devices*, 2003 Edition.

LESS-THAN-SIGNIFICANT IMPACTS

Increased Motor Vehicle Traffic

Enrollment increases occurring with the project would generate new motor vehicle trips (i.e, additional students traveling to and from campus). Based upon the forecasted enrollment increase provided by the College, impacts resulting from additional motor vehicle traffic were evaluated.

Vehicle Trip Generation. In order to forecast the amount of traffic that the project would generate, national and local data on trip generation rates for junior

colleges were reviewed. National data were derived from the Institute of Transportation Engineers (ITE) *Trip Generation* (7th Edition, 2003). Local data were derived from traffic counts conducted by Fehr & Peers at Napa Valley College, which has a similar level of automobile usage as College of Marin. (Although daily vehicle counts for the Indian Valley campus are available as well, other uses on the Indian Valley campus, such as the charter high school, distort the trip generation rate. Therefore, the Indian Valley data were not used to derive a trip generation rate for this study).

Table 4.7-6 provides a comparison of the national and local trip generation rates for junior colleges.

Table 4.7-6 Comparison of Trip Generation Rates

Data Source	Trip Rates (per student)
National Data (ITE)[a]	
AM Peak Hour	0.12 trip
PM Peak Hour	0.12 trip
Daily	1.20 trips
Local Data (Fehr & Peers)[b]	
AM Peak Hour	0.15 trip
PM Peak Hour	0.12 trip
Daily	2.50 trips

[a] National data derived from Institute of Transportation Engineers (ITE) rate for "junior/community college" (land use 540).
[b] Local data derived from counts conducted by Fehr & Peers in March 2004 at Napa Valley College campus in Napa, California.
Source: Fehr & Peers, 2007.

Since the local trip generation rate is likely more consistent with the suburban characteristics of College of Marin, the higher rate (from Napa Valley College) was used to forecast vehicle trip generation resulting from the project. Table 4.7-7 shows the trip generation forecast, based on the anticipated enrollment increase of 192 students at the Indian Valley campus by 2013. As shown, the project would generate 29 trips during the AM peak hour, 23 trips during the PM peak hour, and 480 daily trips.

Trip Distribution. In order to evaluate the likely impact of additional vehicle traffic on study intersections, project trips were distributed to primary transportation routes to and from the Indian Valley campus. Figure 4.7-5 shows the distribution of project trips and the assignment of those trips to each of the three study intersections.

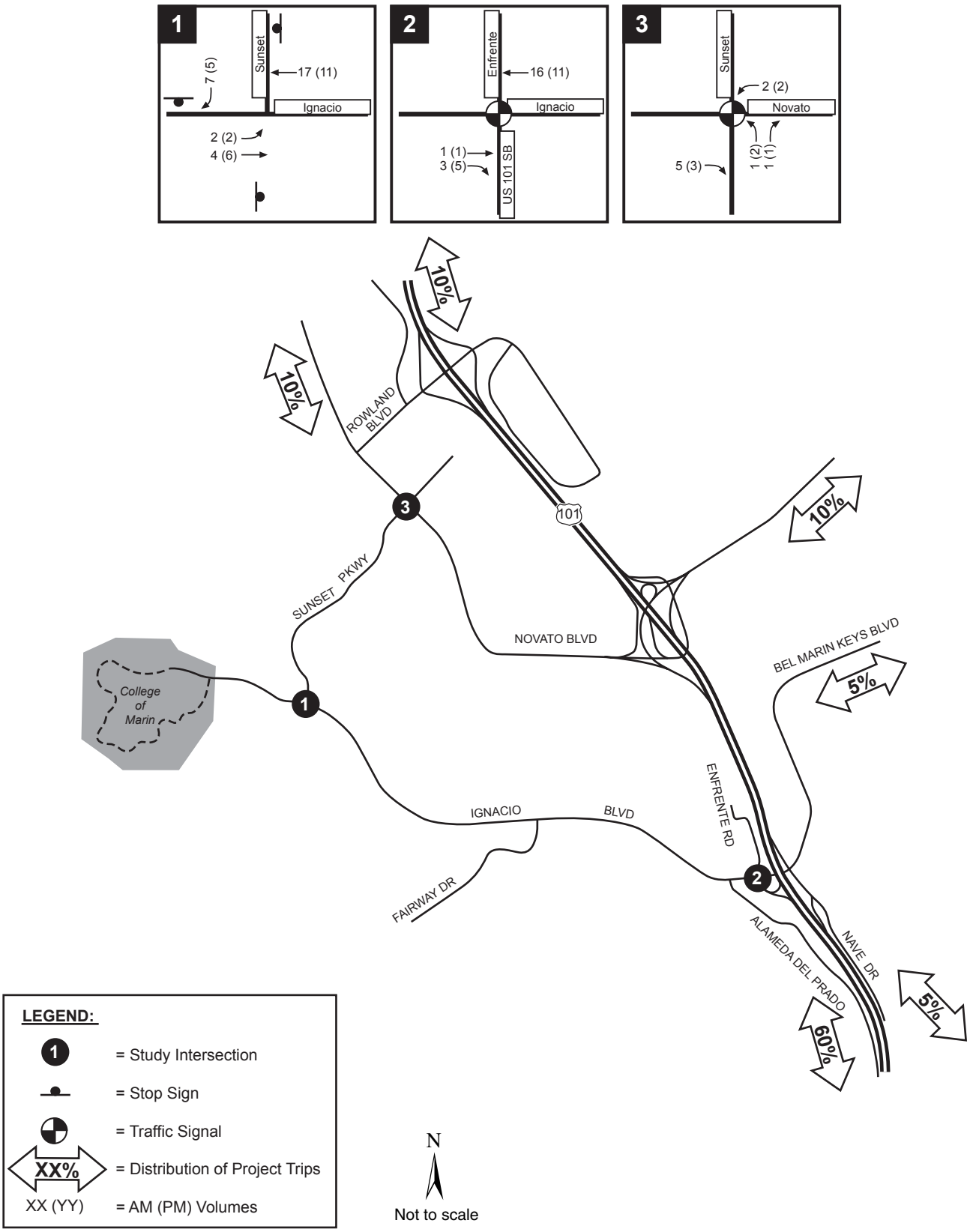


Figure 4.7-5

PROJECT TRIP DISTRIBUTION (MOTOR VEHICLES): INDIAN VALLEY CAMPUS

SOURCE: Fehr and Peers, 2007

Table 4.7-7 Vehicle Trip Generation – Indian Valley Campus

Enrollment Growth (Year 2013)	Time Period	Vehicle Trips Generated by Project
+192 students	AM Peak Hour	29 trips
	PM Peak Hour	23 trips
	Daily	480 trips

Source: Fehr & Peers, 2007.

Existing Plus Project Conditions. Table 4.7-8 shows the existing level of service at each of three study intersections near the Indian Valley campus, and the resulting level of service with the addition of project trips ("Existing Plus Project" conditions). As shown, level of service would be virtually unaffected by the addition of project trips. Level of service would remain at an acceptable level at the intersections of Sunset Parkway / South Novato Boulevard and Ignacio Boulevard/ Enfrente Road / U.S. Highway 101 Southbound Ramp.

Table 4.7-8 Intersection Level of Service (LOS) – Existing Plus Project Conditions

		Peak Hour LOS (Delay/Vehicle)[a]			
		Existing Conditions		Existing Plus Project Conditions	
Intersection	Traffic Control	AM	PM	AM	PM
1. Ignacio Boulevard / Sunset Parkway	All-way Stop	F (80.5)	A (9.9)	F (81.4)	A (10.0)
2. Ignacio Boulevard / Enfrente Road / U.S. Highway 101 SB Ramp	Signalized	B (19.1)	C (25.9)	B (19.1)	C (25.9)
3. South Novato Boulevard / Sunset Parkway	Signalized	C (21.1)	B (17.3)	C (21.3)	B (17.4)

[a] Average control delay is reported. Average delay measured in seconds per vehicle.
Source: Fehr & Peers, 2007.

Level of service at the Ignacio Boulevard/Sunset Parkway intersection would also be unaffected, although this intersection would continue to operate at LOS F during the AM peak hour. This delay is primarily attributable to heavy traffic volumes making the southbound left-turn movement from Sunset Parkway to

Ignacio Boulevard eastbound. The addition of college traffic would cause the average delay to increase by less than one second. Therefore, impacts on "Existing Plus Project" conditions would be less than significant.

Future (Year 2013) Conditions. Buildout of the project would occur by the year 2013. In order to evaluate likely traffic conditions at buildout, a forecast of background traffic growth for the year 2013 was prepared. Typically, traffic studies in Novato use the City's *2002 Citywide Traffic Model Update* to forecast future year conditions. However, since the City's model data were not available for each of the three study intersections, and since the City's model assumes a longer time horizon (approximately 20 years), the City's model data were not used for this analysis.

For the purposes of this analysis, an 8-percent increase in background traffic growth was assumed. This represents a growth rate of one percent per year from 2005 to 2013. Using this forecast, an analysis of year 2013 (without project) traffic conditions was conducted. Figure 4.7-6 shows the 2013 (without project) peak hour traffic volumes at each study intersection. Project trips (as shown on Figure 4.7-5) were then added to the 2013 traffic volumes in order evaluate year 2013 (with project) conditions.

Table 4.7-9 provides a comparison of year 2013 conditions with and without the project at each of the three study intersections. As shown, the level of service would be virtually unaffected by the addition of project trips. The level of service would remain at an acceptable level at the intersections of Sunset Parkway/ South Novato Boulevard and Ignacio Boulevard/ Enfrente Road / U.S. Highway 101 Southbound Ramp.

Level of service at the Ignacio Boulevard/Sunset Parkway intersection would also be unaffected, although this intersection would continue to operate at LOS F (with or without the project) during the AM peak hour. This delay is primarily attributable to heavy traffic volumes making the southbound left-turn movement from Sunset Parkway to Ignacio Boulevard eastbound. The addition of college traffic would cause the average delay to increase by less than one second. Therefore, project impacts to year 2013 traffic conditions would be less than significant.

Based upon the analysis described above, the project would not cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.

Congestion Management Program. The Transportation Authority of Marin (TAM) is a 12-member board comprised of representatives from the Marin County Board of Supervisors and the City or Town Council of each local government in Marin County. Formerly known as the Marin County Congestion Management Agency, TAM is required to prepare, update, and monitor a Congestion Management Program (CMP) that does the following:

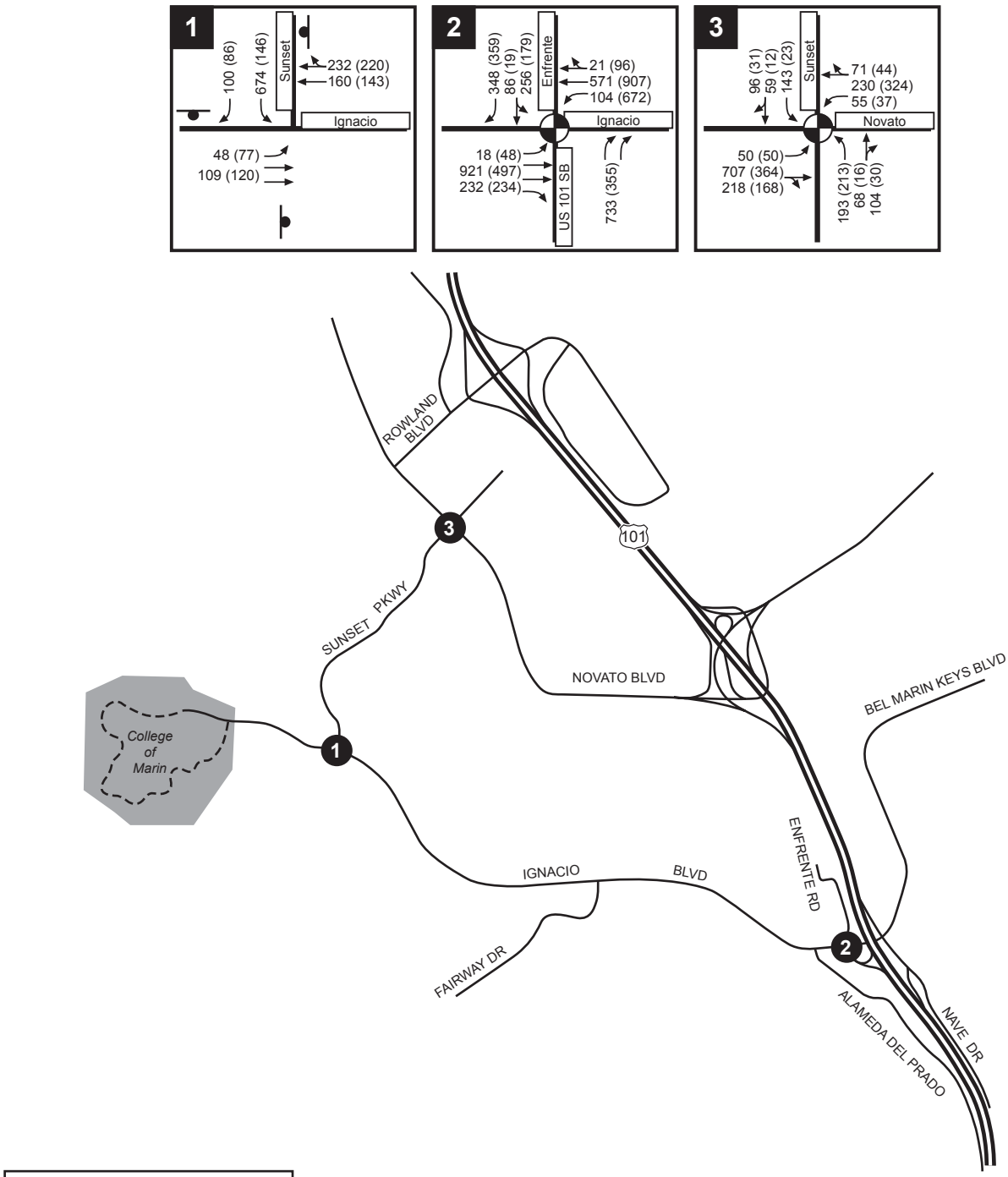


Figure 4.7-6

YEAR 2013 (WITHOUT PROJECT) PEAK HOUR TRAFFIC VOLUMES: INDIAN VALLEY CAMPUS

SOURCE: Fehr and Peers, 2007

Table 4.7-9 Intersection Level of Service (LOS) – Year 2013 Conditions

Intersection	Traffic Control	Peak Hour LOS (Delay/Vehicle)[a]			
		Year 2013 Without Project		Year 2013 With Project	
		AM	PM	AM	PM
1. Ignacio Boulevard / Sunset Parkway	All-way Stop	F (91.3)	A (9.9)	F (92.2)	A (10.0)
2. Ignacio Boulevard / Enfrente Road / U.S. Highway 101 SB Ramp	Signalized	B (19.4)	C (26.7)	B (19.3)	C (26.7)
3. South Novato Boulevard / Sunset Parkway	Signalized	C (23.6)	B (17.4)	C (23.9)	B (17.6)

[a] Average control delay is reported. Average delay measured in seconds per vehicle.
Source: Fehr & Peers, 2007.

- Identifies a network of transportation facilities, and design level of service standards for highways and roadways, and monitors congestion levels periodically.
- Establishes performance measures to evaluate current and future multi-modal system performance for the movement of people and goods.
- Identifies and encourages alternatives to the single-occupant vehicle through the use of Transportation Demand Management (TDM) techniques.
- Develops a process to determine the impacts of local development decisions on the regional transportation network, facilitating integration of decisions about land development, transportation investment, and air quality.
- Develops a computer travel model and database to be used for estimating future transportation needs and impacts.
- Develops and updates a seven-year capital improvement program to promote the goals of the CMP.

The *2005 Marin County Congestion Management Program* was adopted in September 2005. The following routes near the Indian Valley campus are part of the designated CMP network:

- Novato Boulevard and South Novato Boulevard
- Rowland Boulevard
- Bel Marin Keys Boulevard
- U.S. Highway 101

Based on the analysis of traffic operations at Novato Boulevard/Sunset Parkway and Ignacio Boulevard/Enfrente Road/U.S. Highway 101 Southbound Ramp, impacts on CMP facilities near the Indian Valley campus would be less than significant. Furthermore, since the project would generate fewer than 30 trips during both the AM and PM peak hours, impacts on U.S. Highway 101 are not likely to be significant. Therefore, the project would not exceed a level of service standard established by TAM.

Conclusion. For the reasons discussed above, impacts resulting from increased motor vehicle traffic generated by the project would be less than significant.

Air Traffic

The Indian Valley campus is not located near a major airport and the project would have no impact on air traffic patterns.

Emergency Access

Figure 3-7 shows the planned vehicle circulation system at the Indian Valley campus with the project. As shown, service and fire truck access is provided by the perimeter loop road and several shorter routes through the campus core. The modernization of Pomo 1 and 2 would include a widened existing pathway to the north of the buildings to accommodate fire access vehicles as requested in preliminary plan review with the Novato Fire Protection District (NFPD) in 2007. The proposed new campus building within Parking Lot 2 would be easily accessible from adjoining parking aisles.

In addition, pedestrian pathways would be upgraded to meet Americans with Disabilities Act (ADA) requirements. Figure 3-6 shows the existing and proposed pedestrian circulation system at the Indian Valley campus.

Impacts on emergency access would be less than significant with implementation of Mitigation Measure SERVICES-2, which requires final site plans to be coordinated with the Novato Fire Protection District and Marin Community College Police Department to ensure adequate emergency access. (See further discussion in Section 4.10, Public Services, of this EIR.)

Reduced Parking Capacity

Landscape improvements are proposed for Parking Lots 1, 2, and 3, the existing parking entry area, and the main campus entry. Also, the eastern portion of Parking Lot 1 is proposed to be converted to a landscape area with stormwater detention and bioswale features and native plantings to provide a buffer for adjacent residential neighbors. Parking Lots 2 and 3 would have new tree plantings and stormwater improvements to enhance the landscape.

As a result of these improvements, and the planned new building in Parking Lot 2, the project would result in removal of approximately 325 parking spaces.

Following the reduction in parking supply, approximately 575 parking spaces would remain on the Indian Valley campus.

Peak parking demand under existing conditions is approximately 227 parking spaces. Since enrollment would increase by approximately 19 percent by 2013, it is reasonable to assume a proportionate increase in parking demand. Based on this methodology, peak parking demand in 2013, with the project, would increase to approximately 270 parking spaces. In order to efficiently accommodate this peak demand, provision of 297 parking spaces would be recommended to provide a 10-percent vacancy rate (thus allowing for efficient movements as motorists arrive on campus and search for available spaces).

Since the recommended provision of parking spaces to meet demand in the year 2013 is 297 spaces, and since a total of approximately 575 parking spaces would be provided, the parking supply would be adequate to meet demand. The reduction in parking supply would not result in a shortage of parking on campus. Project impacts on parking would be less than significant.

No significant impacts related to pedestrian circulation would occur. A pedestrian circulation plan is shown in Figure 3-6, showing both accessible (i.e., ADA-compliant) and non-accessible pedestrian routes.

POTENTIALLY SIGNIFICANT IMPACTS

Based on the significance criteria identified above, the Bond Spending Implementation Plan would have the following potentially significant transportation impacts.

Impact TRANSPORTATION-1: Ongoing campus construction would affect vehicle, bicycle, and pedestrian circulation within the Indian Valley campus and may create unsafe conditions. (PS)

Development of the project would occur over a period of years, resulting in ongoing construction on the campus. If not properly planned and monitored, ongoing construction may result in hazardous conditions for vehicle, pedestrian, and bicycle travel on campus.

Development of a Construction Management Plan would address the characteristics of construction-related traffic associated with development. Such plans identify construction phasing as well as the level and type of construction-related traffic.

> *Mitigation Measure TRANSPORTATION-1: The District shall develop a Construction Management Plan prior to commencement of any construction activities. The Construction Management Plan shall include:*

(a) Location of construction staging and a description of the level and type of construction-related traffic;

(b) Recommendations for comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak hours; lane closure procedures; signs, cones, and other warning devices for drivers; and designation of construction access routes;

(c) Description of the maximum number of construction employees during any single phase of project construction, and a forecast of the number of AM and PM peak hour trips to be generated by those employees;

(d) Provision of dedicated parking for all construction employees, site visitors, and inspectors;

(e) Provisions to remove construction-related debris; and

(f) Designation of pedestrian and bicycle facilities around the construction and staging areas.

The combination of the above elements in a Construction Management Plan would reduce this impact to a less-than-significant level. (LTS)

Impact TRANSPORTATION-2: Potential conflicts between bus circulation and vehicle access to parking spaces may result from the proposed routing of buses to serve the main campus and the new Main Building Complex. (PS)

The project includes a proposed change in the routing of buses serving the Indian Valley campus. Buses currently circulate through a turnaround within Parking Lot 4 (P4) to serve the campus bus stop. Since there are few parking spaces in this area and a wide roadway that circulates through this area in a one-way direction, buses have few impediments to travel when entering or existing this location. However, as shown below in Figure 4.7-7, this area would be redesigned and a new campus bus stop would be provided to serve the new "Main Building Complex. Potential conflicts would result between buses and motor vehicles entering and exiting parking spaces (especially when motorists are backing up out of parking spaces adjacent to the bus route) and at locations where the bus route intersects parking lot drive aisles.

Other aspects of the project would not substantially increase any hazards related to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

Mitigation Measure TRANSPORTATION-2: The project shall provide a bus circulation route that would not force buses to use parking aisles to reach the proposed new campus bus stop unless such a route is approved by the Marin County Transit District and Golden Gate Transit

Figure 4.7-7 Proposed On-Campus Bus Routes

District. The Marin Community College District shall coordinate with the Marin County Transit District and Golden Gate Transit to develop an acceptable route and bus stop location prior to construction of the new Main Building Complex. (LTS)

Impact TRANSPORTATION-3: Bicycle circulation routes and bicycle parking locations within the Indian Valley campus are not yet defined as part of the project, and thus conflicts with policies to encourage alternative transportation could result. (PS)

Students and faculty travel on transportation facilities within the City of Novato to reach the Indian Valley campus. The *Novato General Plan* includes several key objectives aimed at promoting alternative transportation (City of Novato, 1996):

- Novato General Plan Objective TR-5 encourages reduced dependence on the automobile.
- Novato General Plan Objective TR-6 calls for infrastructure improvements that will make it easier and safer for people to travel by bicycle and on foot.

The project does contain some measures that address college-related bicycle circulation, such as bicycle parking facilities, changing rooms, and showers. However, the project has not addressed bicycle circulation between the edge of campus and campus buildings. Due to the large number of disabled students, bicycle circulation in the inner campus is not recommended.

Adoption of a bicycle circulation plan as part of the project would mitigate this impact. Figure 4.7-8 shows a conceptual version of a potential bicycle plan for

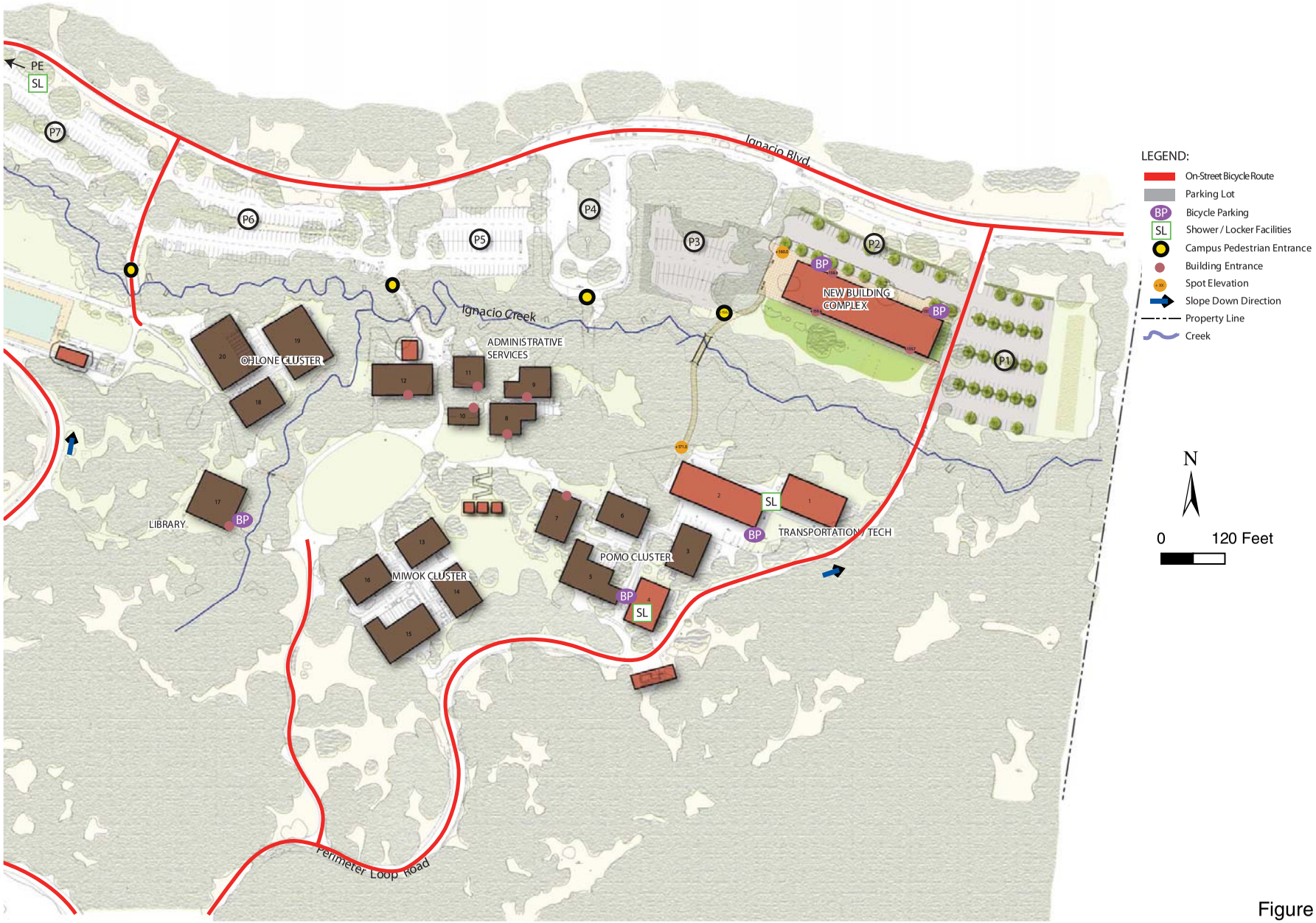


Figure 4.7-8

SOURCE: Fehr & Peers, 2007

CONCEPTUAL BICYCLE PLAN FOR INDIAN VALLEY CAMPUS

the Indian Valley campus. Bicycle parking should be placed in visible locations adjacent to buildings (to reduce the likelihood of theft). In addition, the construction of a new building creates an opportunity to provide shower and locker facilities for bicyclists.

Mitigation Measure TRANSPORTATION-3: The District shall adopt a campus bicycle plan for the Indian Valley campus that shows existing and planned bicycle paths, lanes, and routes; and the recommended location of bicycle parking and shower facilities. Bicycle parking shall be placed in visible locations adjacent to buildings (to reduce the likelihood of theft). The District may want to restrict bicycle use within the inner campus area.

This plan shall be adopted prior to completion of the new Main Building Complex. (LTS)

Impact TRANSPORTATION-4: Increased motor vehicle traffic generated by the project would contribute to an increase in energy consumption, air pollutants, and vehicle trips in Marin County and could conflict with County policies aimed at supporting alternative transportation and reduced private vehicular use. (LTS)

Many college and university campuses have adopted aggressive Transportation Demand Management (TDM) programs to reduce reliance on automobile travel and encourage other modes of travel. Although impacts resulting from increased motor vehicle traffic generated by the project would be less than significant, establishment of a TDM program at the Indian Valley campus would support campus goals related to sustainability, and address potential energy and air quality impacts resulting from the project. Additionally, Impact ENERGY-1 identifies an impact resulting from increased energy usage due to the increase in automobile trips to and from campus that could potentially be addressed through implementation of a TDM program.

Mitigation Measure TRANSPORTATION-4: The District shall develop and implement a Transportation Demand Management (TDM) program. The TDM program should include some or all of the following provisions:

(a) Establish a transportation kiosk or office on campus to distribute information on traveling to and from campus via multiple travel modes, with an emphasis on alternatives to automobile trips.

(b) Collaborate with the Marin County Transit District and Golden Gate Transit to investigate the provision of subsidized or reduced-cost transit passes for students, faculty, and staff.

(c) Continue to offer internet courses to reduce the need to drive to and from campus.

(d) Explore options for vanpool or shuttle bus service between the Kentfield and Indian Valley campuses.

(e) Encourage carpooling by providing preferential parking and reduced parking fees for carpoolers.

(f) Explore options for encouraging use of neighborhood electric vehicles (NEV) and other low-emission options (including shuttles and/or van-pools), including on-campus maintenance vehicles.

(g) Provide one or more "bicycle stations" on campus, to include shower and locker facilities. (LTS)

REFERENCES

City of Novato, 1996. *Novato General Plan.*

County of Marin, 2001. *Marin County Unincorporated Area Bicycle and Pedestrian Master Plan.*

Fehr & Peers, 2004. *Transportation Impact Study for Napa Valley College Master Plan*.

Institute of Transportation Engineers (ITE), 2003. *Trip Generation* (7th Edition).

Transportation Authority of Marin, 2005. *Marin Congestion Management Program*.

Transportation Research Board (TRB), 2000. *Highway Capacity Manual.*

4.8 AIR QUALITY

INTRODUCTION

This section describes the impacts of the proposed project on air quality. The section was prepared using thresholds of significance recommended by the Bay Area Air Quality Management District. It describes existing air quality, direct and indirect emissions associated with the project, and mitigation measures warranted to reduce or eliminate any identified significant impacts.

ENVIRONMENTAL SETTING

CLIMATE

The Indian Valley campus is located in eastern Marin County, part of the nine-county San Francisco Bay Air Basin. Marin County is bounded on the west by the Pacific Ocean, on the east by San Pablo Bay, on the south by the Golden Gate and on the north by the Petaluma Gap. The prevailing wind directions are northwesterly and southeasterly reflecting the influence of marine air flows through the Golden Gate to the south and the Petaluma Gap to the northwest.

The eastern side of Marin County has warmer weather than the western side because of its distance from the ocean and because the hills that separate eastern Marin from western Marin occasionally block the flow of marine air. Temperatures in Novato are moderated by the cooling effect of the bay in summer and the warming effect of the bay in winter.

Eastern Marin County has a higher potential for air pollution than the rest of the county.

Eastern Marin County has a relatively higher potential for air pollution compared to the rest of Marin County. High air pollution potential means that the sheltering terrain and relatively light winds often limit the atmosphere's ability to transport and dilute pollutants. However, because Marin County does not have many polluting industries and is located on the up-wind edge of the air basin, current air quality is good despite a high climatological pollution potential (BAAQMD, 1999).

AMBIENT AIR QUALITY STANDARDS

Criteria Pollutants

Both the U.S. Environmental Protection Agency and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants that represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover “criteria” pollutants, a term used because the health and other effects of each pollutant are described in

criteria documents. The federal and California State ambient air quality standards are summarized in Table 4.8-1.

The federal and State ambient standards were developed independently with differing purposes and methods, although both processes attempt to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California State standards are more stringent. This is particularly true for ozone and particulate matter (PM_{10} and $PM_{2.5}$)

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different TACs. The most important, in terms of health risk, are diesel particulate, benzene, formaldehyde, 1,3-butadiene and acetaldehyde.

Public exposure to TACs can result from emissions associated with normal operations, as well as accidental releases. Health effects of TACs can include cancer, birth defects, neurological damage, and death.

AMBIENT AIR QUALITY

The State and federal ambient air quality standards cover a wide variety of pollutants. Only a few of these pollutants are problems in the Bay Area either due to the strength of the emission or the climate of the region. The BAAQMD monitors several pollutants at its monitoring site in San Rafael. Table 4.8-2 summarizes violations of air quality standards in San Rafael for the three-year period from 2004 to 2006. Table 4.8-2 shows that all State and federal ambient air quality standards are met with the exception of the State standard for PM_{10}, for which the standard was exceeded one day in 2004.

GLOBAL WARMING GASES

The greenhouse effect is a natural process by which some of the radiant heat from the sun is captured in the lower atmosphere of the earth. The gases that help capture the heat are called greenhouse gases. While greenhouse gases are not normally considered air pollutants, all of these gases have been identified as forcing the earth's atmosphere and oceans to warm above naturally occurring temperatures. Some greenhouse gases occur naturally in the atmosphere, while others result from human activities. Naturally occurring greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide, and ozone. Certain

Table 4.8-1 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour	--	0.09 PPM
	8-Hour	0.08 PPM	0.07 PPM
Carbon Monoxide	8-Hour	9.0 PPM	9.0 PPM
	1-Hour	35.0 PPM	20.0 PPM
Nitrogen Dioxide	Annual Average	0.05 PPM	--
	1-Hour	--	0.25 PPM
Sulfur Dioxide	Annual Average	0.03 PPM	--
	24-Hour	0.14 PPM	0.04 PPM
	1-Hour	--	0.25 PPM
PM_{10}	Annual Average	--	20 µg/m^3
	24-Hour	150 µg/m^3	50 µg/m^3
$PM_{2.5}$	Annual	15 µg/m^3	12 µg/m^3
	24-Hour	35 µg/m^3	--
Lead	Calendar Quarter	1.5 µg/m^3	--
	30 Day Average	--	1.5 µg/m^3
Sulfates	24 Hour	--	25 µg/m^3
Hydrogen Sulfide	1-Hour	--	0.03 PPM
Vinyl Chloride	24-Hour	--	0.01 PPM

Notes: PPM = Parts per Million
µg/m^3 = Micrograms per Cubic Meter
Source: CARB, 2007a.

human activities, such as transportation and the burning of fossil fuels, add to the levels of most of these naturally occurring gases.

According to the 2006 California Climate Action Team Report (CCAT, 2006) the following climate change effects are predicted in California over the course of the next century:

- A diminishing Sierra snow pack declining by 70 to 90 percent, threatening the State's water supply.
- Increasing temperatures from 8 to 10.4°F under the higher emission scenarios, leading to a 25- to 35-percent increase in the number of days ozone pollution levels are exceeded in most urban areas.

Table 4.8-2 Summary of Air Quality Data for San Rafael

Pollutant	Standard	Days Exceeding Standard in: 2004	2005	2006
Ozone	Federal 1-Hour	0	0	0
Ozone	State 1-Hour	0	0	0
Ozone	Federal 8-Hour	0	0	0
Carbon Monoxide	State/Federal 8-Hour	0	0	0
Nitrogen Dioxide	State 1-Hour	0	0	0
PM_{10}	Federal 24-Hour	0	0	0
PM_{10}	State 24-Hour	1	0	0

Source: CARB, 2007b.

- Coastal erosion along the length of California, and sea water intrusion into the Delta from a 4- to 33-inch rise in sea level.[1] This would exacerbate flooding in already vulnerable regions.
- Increased vulnerability of forests due to pest infestation and increased temperatures.
- Increased challenges for the state's important agriculture industry from limited water, increasing temperatures, and saltwater intrusion into the Delta.
- Increased electricity demand, particularly in the hot summer months.

SENSITIVE RECEPTORS

"Sensitive receptors" for air pollution include residences, schools, playgrounds, child care centers, retirement and convalescent homes, hospitals, and medical clinics.

The Bay Area Air Quality Management District defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to be located. These land uses include residences, schools, playgrounds, child care centers, retirement homes, convalescent homes, hospitals, and medical clinics.

Sensitive receptors near the Indian Valley campus include residences just east of the campus on both sides of Ignacio Boulevard and the San Jose Middle School farther east on the north side of Ignacio Boulevard.

[1] This sea level rise could possibly be higher over a 100-year period, based on recent planning efforts being undertaken in the California Delta region.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

The proposed project would have a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollution concentrations;
- Create objectionable odors affecting a substantial number of people;
- Exceed the probability of 10 in one million of a maximally exposed individual contracting cancer; or
- Have ground level concentrations of non-carcinogenic TACs that would result in a Hazard Index greater than one for the maximally exposed individual.

The CEQA Guidelines further state that, where available, the significance criteria established by the applicable air district may be used to make these determinations. The document *BAAQMD CEQA Guidelines* provides the following definitions of a significant air quality impact (BAAQMD, 1999):

- A project contributing to carbon monoxide (CO) concentrations exceeding the State Ambient Air Quality Standard of 9 parts per million (ppm) averaged over 8 hours or 20 ppm for 1 hour would be considered to have a significant impact.
- A project that generates criteria air pollutant emissions in excess of the BAAQMD annual or daily thresholds would be considered to have a significant air quality impact. The current thresholds are 15 tons per year or 80 pounds per day for Reactive Organic Gases (ROG), Nitrogen Oxides (NO_x) or PM_{10}. Any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact.
- Any project with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.
- Any project with the potential to expose sensitive receptors or the general public to substantial levels of TACs would be deemed to have a significant impact.

Despite the establishment of both federal and State standards for $PM_{2.5}$, the BAAQMD has not developed a threshold of significance for this pollutant. For this analysis, $PM_{2.5}$ impacts would be considered significant if project emissions of PM_{10} exceed 80 pounds per day.

The BAAQMD significance threshold for construction dust impacts is based on the appropriateness of construction dust controls. The BAAQMD guidelines provide feasible control measures for construction emissions of PM_{10}. If the appropriate construction controls are implemented, air pollutant emissions for construction activities would be considered less than significant.

LESS-THAN-SIGNIFICANT IMPACTS

Increased Carbon Monoxide Concentrations

Project traffic would add to carbon monoxide concentrations near streets and intersections providing access to the site. The *BAAQMD CEQA Guidelines* provide that no quantified carbon monoxide air quality analysis is required for projects generating fewer than 2,000 vehicle trips per day, unless warranted by the specific nature of the project or project setting. Project trip generation would be well below 2,000 trips per day and the project is located in an area with relatively low background levels of carbon monoxide. While project traffic would add to existing levels of carbon monoxide along streets providing access to the site, there is no reason to expect that concentrations would be increased such that the State or federal ambient standards would be exceeded. Because new project traffic would not cause any new violations of the 8-hour standards for carbon monoxide, nor contribute substantially to an existing or projected violation, project impacts on local carbon monoxide concentrations are considered to be less than significant.

Increased Regional Emissions of Ozone Precursors and Particulate Matter

Additional vehicle trips to and from the project would result in new air pollutant emissions within the air basin. The emissions from these new trips would not exceed the BAAQMD thresholds of significance. Regional emissions associated with project vehicle use have been calculated using the URBEMIS2002 emission model. The URBEMIS2002 output is included in Appendix F.

The incremental daily emission increase associated with project land uses is identified in Table 4.8-3 for reactive organic gases and oxides of nitrogen (two precursors of ozone) and PM_{10}. The Bay Area Air Quality Management District has established threshold of significance for ozone precursors and PM_{10} of 80 pounds per day. Project emissions shown in Table 4.8-3 would not exceed these thresholds of significance, so the proposed project would have a less-than-significant effect on regional air quality.

Table 4.8-3 Project Regional Emissions in Pounds Per Day

	Reactive Organic Gases	Nitrogen Oxides	PM_{10}
Vehicle Emissions	4.6	3.1	3.8
BAAQMD Significance Threshold	80.0	80.0	80.0

Notes: BAAQMD = Bay Area Air Quality Management District.
Source: Ballanti, 2007.

Potential Conflicts with Regional Air Plans

The proposed project would not conflict with or obstruct implementation of the applicable air quality plan because it would not cause a substantial change in population or employment that would not be accounted for by the regional air quality plans.

Operational Exposure to Toxic Air Contaminants

The project would not exceed the probability of 10 in one million of a maximally exposed individual contracting cancer since the proposed project would not create any new permanent sources of TACs.

Increased Emission of Global Warming Gases

Transportation is the largest source of greenhouse gas emissions in the Bay Area and would be the source of most of the greenhouse gases emitted by the proposed project. Other smaller sources would be power plants and on-site fuel combustion for heating. On-road emissions from vehicles were estimated using the CARB's EMFAC-2007 model emission factors for carbon dioxide ($CO_{2)}$). Vehicle emissions for methane and nitrous oxides were based on published emission factors (BAAAQMD, 2006). The resulting estimated daily emissions of greenhouse gases associated with the project are shown in Table 4.8-4.

To provide a context for project greenhouse gas emissions, it is useful to consider the state of California as a whole. California is a substantial producer of greenhouse gas emissions. Carbon dioxide accounts for approximately 85 percent of total emissions, and methane and nitrous oxide account for almost an additional 14 percent. Each gas contributes to global warming at a different relative rate. Methane has a global warming potential 21 times that of carbon dioxide, while nitrous oxide is 310 times that of the same amount of carbon dioxide.

Table 4.8-4 Project Greenhouse Gas Emissions in Pounds Per Day

	Carbon Dioxide (CO_2)	Nitrous Oxide (N_2O)	Methane (CH_4)
Pounds Per Day	2,442	0.025	0.068
Tons Per Year	445	0.0045	0.0125

Source: Ballanti, 2007.

According to the California Climate Action Team, total carbon dioxide emissions in California from fossil fuel combustion in 2002 were 360 million tons, accounting for approximately 7 percent of U.S. emissions from this source.

There are currently no federal, State, county, or air district thresholds of significance by which the above emissions can be determined to be significant or not. Greenhouse gas impacts of a single project are therefore considered too speculative to allow a determination of significance. While no mitigation measures are required, the energy efficiency aspects of the project described in Section 4.12, Energy and Sustainability, would act to reduce the generation of greenhouse gases.

Objectionable Odors

The project would allow continuation of college uses of the Indian Valley campus. These uses would not generate any significant objectionable odors.

POTENTIALLY SIGNIFICANT IMPACTS

The following section addresses potentially significant impacts related to air quality from adoption of the Bond Spending Implementation Plan, based on the significance criteria stated above.

Impact AIR-1: Construction activities such as clearing, excavation and grading operations, construction vehicle traffic, and wind blowing over exposed earth would generate fugitive particulate matter emissions that would temporarily affect local air quality and possibly affect nearby sensitive receptors. (PS)

Dust-generating construction activities are of primary concern during the summer months when the dry, windy climate in the project area creates a high potential for dust generation when and if underlying soils are exposed. According to the *BAAQMD CEQA Guidelines*, emissions of ozone precursors (ROG and NOx) and carbon monoxide related to construction equipment are already included in the emission inventory that is the basis for regional air quality plans, and thus are not expected to impede attainment or maintenance of ozone and carbon

monoxide standards in the Bay Area. Thus, the main effects of construction activities would be increased dustfall and locally elevated levels of particulate matter downwind of construction activity.

Construction activities would be occurring at numerous locations within the campus intermittently over a six-year period. In general, potential for dust generation is limited, as there would be little earthmoving or excavation occurring, and no demolition would occur. No soil would need to be imported or exported to or from the site. Nevertheless, there may be occasions when construction dust has the potential for creating a nuisance at nearby properties or for students/faculty on campus. This is considered a potentially significant impact, but is normally mitigable.

Mitigation Measure AIR-1a: Consistent with guidance from the Bay Area Air Quality Management District (BAAQMD), the following measures shall be required of construction contracts and specifications:

(1) Water all active construction areas at least twice daily and more often during windy periods; active areas adjacent to existing land uses shall be kept damp at all times, or shall be treated with non-toxic stabilizers or dust palliatives.

(2) Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.

(3) Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.

(4) Sweep daily (preferably with water sweepers) all paved access roads, parking areas, and staging areas at construction sites; water sweepers shall vacuum up excess water to avoid runoff-related impacts on water quality.

(5) Sweep streets daily (preferably with water sweepers) if visible soil material is carried onto adjacent public streets.

Mitigation Measure AIR-1b: All neighboring properties located within 500 feet of a construction site boundary shall be provided with the name and phone number of a designated construction dust control coordinator who can respond to complaints by suspending dust-producing activities or providing additional personnel or equipment for dust control. Residents shall also be provided with the phone number of the BAAQMD. The dust control coordinator shall be available during all times when demolition, grading, or excavation is occurring and shall maintain a log of complaints.

The above measures include all feasible measures for construction emissions identified by the BAAQMD for large sites near sensitive receptors and additional measures beyond those recommended by the

BAAQMD. According to the BAAQMD threshold of significance for construction impacts, implementation of the combination of the above measures would reduce construction impacts of the project to a less-than-significant level. (LTS)

Impact AIR-2: During construction, various diesel-powered vehicles and equipment would be in use. Exposure of sensitive receptors to diesel particulate would represent a potentially significant impact. (PS)

In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines (CARB, 2000). High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as having the highest associated risk.

Health risks from TACs are a function of both concentration and duration of exposure. Unlike emissions from the above types of sources, construction equipment diesel emissions are temporary, affecting an area for a period of weeks or months at any one location. Additionally, construction-related sources are mobile and transient in nature, and the bulk of the emission generally occurs within the project site at a safe distance from most nearby sensitive receptors.

For the proposed project, the largest exposure of sensitive receptors would occur during construction of the geothermal field. The drilling and trenching equipment used to create the network of underground pipes needed for the geothermal field would place equipment such as portable drills and trenchers near existing homes just east of the campus. During daylight hours, the prevailing winds would carry pollutants towards these homes. Nearby residents could be affected by diesel emissions. While the San Jose Middle School is also located east of the project, it is roughly one-half mile away, a distance that would allow substantial dilution of construction emissions before they would affect the campus.

Mitigation Measure AIR-2: The following measures shall be required of construction contracts and specifications for construction of the geothermal field:

(a) Minimize idling time for diesel equipment and diesel trucks (5 minutes maximum).

(b) Maintain properly tuned equipment.

(c) Use on-road trucks and non-road diesel-powered equipment that are certified as meeting EPA/CARB Tier 2 standards. Such equipment is the cleanest currently available.

The above measure would ensure that health risks due to diesel particulate construction impacts of the project would be reduced to a less-than-significant level. (LTS)

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4.9 NOISE

INTRODUCTION

The major issues evaluated in this section include the compatibility of the proposed Indian Valley campus uses with the noise environment at the project site and the potential for long-term or short-term noise impacts to occur at existing nearby sensitive development as a result of operational activity noise, construction noise, and increased traffic noise on local roadways. This section presents a discussion of the fundamentals of environmental acoustics, regulatory background information, a discussion of the existing noise environment in and around the project site, and an evaluation of the potential for noise impacts resulting from the project.

ENVIRONMENTAL SETTING

FUNDAMENTALS OF ENVIRONMENTAL ACOUSTICS

The objectionable effects of noise can be attributed to either pitch or loudness.

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable effects of noise can be attributed to either pitch or loudness. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher-pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

Several noise metrics, or scales, are used to describe noise. A *decibel (dB)* is a unit of measurement that indicates the relative amplitude of sound pressure. Zero on the decibel scale is based on the lowest sound level that a healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while an increase of 20 decibels results from 100 times the energy, and a 30-decibel increase results from an energy increase of 1,000 times. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10-decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 4.9-1.

There are several methods of characterizing sound. The most common method in California is the *A-weighted sound level* or *dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in

Table 4.9-1 Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	The sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, Leq	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10 PM and 7 AM.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7 PM to 10 PM and after addition of 10 decibels to sound levels measured in the night between 10 PM and 7 AM.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive Noise	Noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Illingworth & Rodkin, Inc., 2007.

Table 4.9-2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be used. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the receptor's distance from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night—because excessive noise interferes with the ability to sleep—24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level, CNEL*, is a measure of the cumulative noise exposure in a community, with a 5-dB penalty added to evening (7:00 PM to 10:00 PM) and a 10-dB addition to nocturnal (10:00 PM to 7:00 AM) noise levels. The *Day/Night Average Sound Level, L_{dn},* is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

REGULATORY BACKGROUND INFORMATION

The State of California and the City of Novato have each established regulations, plans, and policies designed to limit noise exposure at noise-sensitive land uses. These include (1) the State CEQA Guidelines, Appendix G; and (2) the Noise Element of the *Novato General Plan*. The CEQA Guidelines are addressed under "Environmental Impacts and Mitigation Measures" below.

The Safety and Noise chapter of the *Novato General Plan* contains policies and programs to maintain appropriate noise levels and to protect noise-sensitive land uses such as residences and schools from excessive noise levels. Residential and institutional land uses would be considered "normally acceptable" if exterior noise levels do not exceed 60 dBA L_{dn} and would be considered "conditionally acceptable" if exterior noise levels range from 60 to 75 dBA L_{dn}. In addition, Safety (SF) Program 38.4 specifies that mitigation measures be investigated for projects that would cause a substantial increase in noise in adjacent residential areas or in residential areas affected by traffic generated by the proposed project. Noise increases of more than 3 dBA L_{dn} would be considered significant if the resulting noise level would exceed the "normally acceptable" level and

Table 4.9-2 Typical Noise Levels in the Environment

Common Outdoor Noise Source	Noise Level	Common Indoor Noise Source
	120 dBA	
Jet fly-over at 300 meters		Rock concert
	110 dBA	
Pile driver at 20 meters	100 dBA	
		Night club with live music
	90 dBA	
Large truck pass by at 15 meters		
	80 dBA	Noisy restaurant
		Garbage disposal at 1 meter
Gas lawn mower at 30 meters	70 dBA	Vacuum cleaner at 3 meters
Commercial / urban area daytime		Normal speech at 1 meter
Suburban expressway at 90 meters	60 dBA	
Suburban daytime		Active office environment
	50 dBA	
Urban area nighttime		Quiet office environment
	40 dBA	
Suburban nighttime		
Quiet rural areas	30 dBA	Library
		Quiet bedroom at night
Wilderness area	20 dBA	
	10 dBA	Threshold of human hearing
	0 dBA	

Source: Illingworth & Rodkin, Inc., 2007.

increases of more than 5 dBA L_{dn} would be considered significant if the resulting noise level would remain within the "normally acceptable" range.

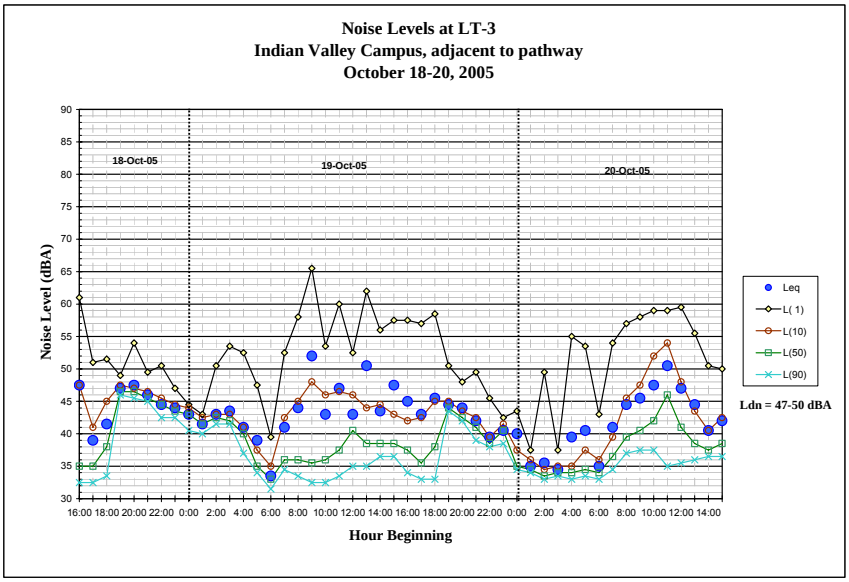
EXISTING NOISE ENVIRONMENT

Ambient noise levels at the Indian Valley campus are low.

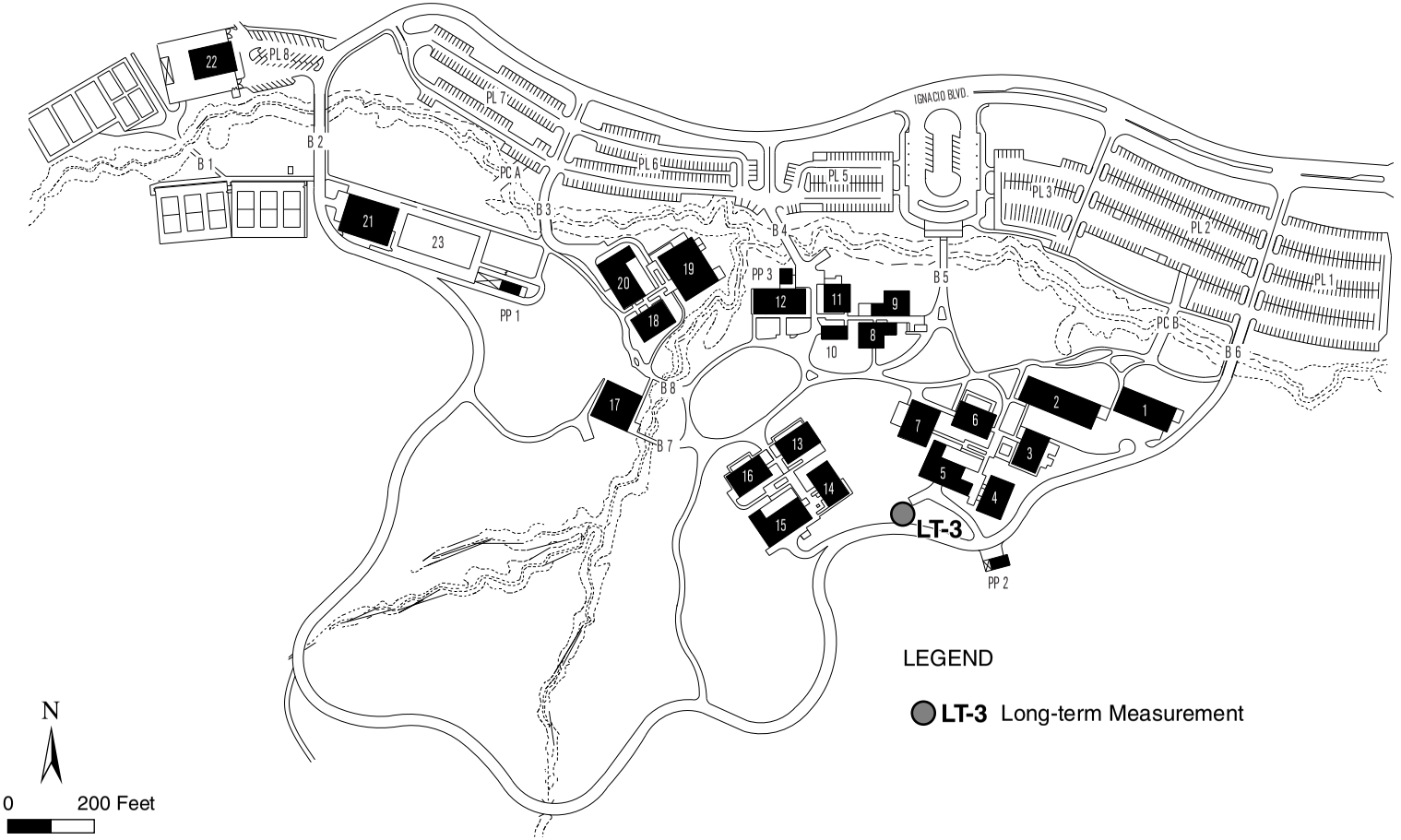
A site visit was conducted in August 2005 and a noise monitoring survey was conducted in October 2005 by staff of Illingworth & Rodkin, Inc. to identify sensitive receivers and quantify existing noise levels at the Indian Valley campus and at the nearest noise-sensitive uses to the project site. Ambient noise levels at the Indian Valley campus are low and the primary noise sources affecting the area are local noise sources such as occasional traffic movements, natural sounds (water, birds, wind), and campus activities. Noise-sensitive residential land uses are interspersed in areas surrounding the site, with the nearest residences located on the east side of the campus, adjacent to the parking area at the campus entrance.

The noise monitoring survey included one long-term (24-hour) measurement between 4:00 PM on October 18, 2005 and 4:00 PM on October 20, 2005 to characterize the ambient noise environment at and around the Indian Valley campus. Monitoring Station LT-3 was located in the southern portion of the campus as shown in Figure 4.9-2. As shown in Figure 4.9-1, noise levels at this location ranged from 33 to 52 dBA L_{eq} and the calculated L_{dn} level was 47 to 50 dBA. Thus, ambient noise levels at Indian Valley campus are significantly lower than at the Kentfield campus, and noise levels at nearby noise-sensitive receptors would be considered to be normally acceptable by the City of Novato Noise Element.

Figure 4.9-1 Daily Trend in Noise Levels at Monitoring Station LT-3



Source: Illingworth & Rodkin, 2007.



LEGEND

LT-3 Long-term Measurement

N

0 200 Feet

NO. BUILDING NAME

POMO CLUSTER
1 Auto Body & Fender
2 Auto Technology Lab
3 General Classrooms/ Medical Labs/ Offices
4 Machine & Metals Technology
5 Math Lab/ Food Vending
6 General Classrooms/ Labs/ Offices
Geology/Geography/ Chemistry/ Biology
7 General Classrooms/ Labs/ Offices/ Language
ADMINISTRATIVE SERVICES
8 Student Services
9 Administrative Services
10 Associated Students
11 Information Systems Services
12 College Bookstore/ Child Care Center
MIWOK CLUSTER
13 Art Labs/Art Gallery/ General Classrooms
14 Foreign Languages Classes/ Offices
15 Studio Theatre/ Student Lounge/ Deli
16 Digital Village
17 Library/ Eops/ Foreign Language
OHLONE CLUSTER
18 Computer Labs/ Offices/ Court Reporting Labs
19 General Classrooms/ Labs/ Offices
Office Occupations/ Court Reporting
20 Food Vending/ P.E./ Classrooms/ Multi Media
21 Pool/ Shower-locker Building
22 Campus Police/ Corporation Yard
23 Pool
PARKING LOTS
PL 1 Parking Lot 1
PL 2 Parking Lot 2
PL 3 Parking Lot 3
PL 4 Parking Lot 4
PL 5 Parking Lot 5
PL 6 Parking Lot 6
PL 7 Parking Lot 7
PL 8 Parking Lot 8
BRIDGES AND PAVED CULVERTS
B 1 Bridge 1-Pedestrian only
B 2 Bridge 2
B 3 Bridge 3
B 4 Bridge 4
B 5 Bridge 5-Pedestrian only
B 6 Bridge 6
B 7 Bridge 7-Pedestrian only
B 8 Bridge 8-Pedestrian only
PC A Paved Culvert A
PC B Paved Culvert B
POWER PLANTS
PP 1 Power Plant 1
PP 2 Power Plant 2
PP 3 Power Plant 3

Figure 4.9-2

SOURCE:Steinberg Architects, 2006

INDIAN VALLEY CAMPUS NOISE MEASUREMENT LOCATION

A survey of noise generated during test drilling for the proposed geothermal field was conducted in March 2007. These data are presented in the impact discussion below.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

A project's noise effects would be considered significant if the project would result in the following:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels; or
- For a project within the vicinity of a private airstrip, exposure of people residing or working in the project area to excessive noise levels.

LESS-THAN-SIGNIFICANT IMPACTS

Noise and Land Use Compatibility

The City of Novato considers exterior noise levels of 60 dBA L_{dn} or less to be compatible with institutional land uses. Existing ambient noise levels at the Indian Valley campus are low, and with the project noise-sensitive areas throughout the campus vicinity would meet the City of Novato noise and land use criteria. The project would therefore have a less-than-significant impact in relation to land use/noise compatibility standards.

Exposure to Excessive Ground-Borne Vibration

The project does not propose any permanent sources of ground-borne vibration and no construction methods that generate substantial vibration, such as pile-driving, are anticipated. Exposure to ground-borne vibration would therefore be a less-than-significant impact.

Project-Generated Traffic Noise Increases

Based on traffic volumes provided for the project's traffic study, traffic noise levels would increase by less that 1 dBA L_{dn} as a result of project traffic. Transportation-related increases of more than 3 dBA L_{dn} would be significant if the resulting noise level would exceed the "normally acceptable" level, and increases of more than 5 dBA L_{dn} would be considered significant if the resulting noise level would remain within the "normally acceptable" range. Traffic noise level increases of less than 1 dBA L_{dn} would not be measurable and would not be considered to be substantial. Project traffic would increase noise levels by less than 1 dBA L_{dn} and would therefore have a less-than-significant impact.

Project-Generated Mechanical Equipment Noise

Due to the open design of the Indian Valley campus, existing mechanical equipment noise is not substantial at nearby noise-sensitive receptors. The proposed geothermal system would reduce the need to use large chillers, and mechanical equipment noise would be anticipated to decrease from existing levels. As part of the Implementation Plan, Power Plants 1, 2, and 3 may be modernized, which would include replacement and relocation of the heating distribution system (campus boilers) and replacement of the high-voltage distribution system. The nearest noise-sensitive receivers are residences to the east of the campus, which would be about 1,000 feet from the closest proposed power plant. At this distance, mechanical noise levels would not be audible above ambient noise levels. This is a less-than-significant impact.

Exposure to Excessive Aircraft Noise Levels

The Indian Valley campus is not within an airport land use plan. Gnoss Field, the nearest airport, is located more than 2 miles northeast of the campus. Aircraft noise would not cause a significant impact, as stated in the Initial Study for the Indian Valley campus Bond Spending Implementation Plan. The Initial Study can be viewed on the College of Marin website.

POTENTIALLY SIGNIFICANT IMPACTS

The following section addresses potentially significant impacts related to noise from adoption of the Implementation Plan, based on the significance criteria stated above.

Impact NOISE-1: Demolition and construction activities would occur over a period of about six years and would generate high noise levels at noise-sensitive uses when construction is located adjacent to these uses. (PS)

The construction activities of the Implementation Plan would generate noise levels that would exceed ambient noise levels at noise-sensitive receptors in the vicinity of the project site and are anticipated to take place over a multi-year

period. The implementation Plan would involve site improvements, such as the establishment of utilities, removal of existing pavement, excavation to create the foundations, building framing, paving, and landscaping. The hauling of any excavated material and construction materials would generate truck trips on local roadways.

Noise impacts from construction activities depend on the various pieces of construction equipment, the timing and length of noise-generating activities, the distance between the noise-generating construction activities and receptors that would be affected by the noise, and shielding. Construction activities for individual projects are typically carried out in stages. During each stage of construction, there would be a different mix of equipment operating. Construction noise levels would vary by stage and vary within stages based on the amount of equipment in operation and location where the equipment is operating. Typical construction noise levels at a distance of 50 feet are shown in Tables 4.9-3 and 4.9-4. Table 4.9-3 shows the average noise level ranges by construction phase and Table 4.9-4 shows the maximum noise level ranges for different construction equipment. Most demolition and construction noise is in the range of 80 to 90 dBA at a distance of 50 feet from the source, with the exception of impact pile-driving, which causes noise levels of up to 105 dBA at a distance of 50 feet.

The highest noise levels are normally generated during grading, excavation, and foundation construction. The erection of large buildings from steel structures can also cause considerable noise for fairly long durations and would not typically be shielded by the surrounding structures. Jackhammers typically generate maximum noise levels of 85 dBA at a distance of 50 feet. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 85 to 90 dBA at a distance of 50 feet.

A component of the proposed Implementation Plan is the geothermal ground-coupled heat exchange system. Parking Lots 1 and 2 along Ignacio Boulevard are designated as the location for the geothermal heat exchange system. It is currently estimated that this project component would require approximately 200 boreholes in the ground drilled to a depth of approximately 200 feet. The final number and depth of bores would depend on the test bore thermal conductivity evaluation which is currently underway. Noise levels resulting from the drilling operation were measured on March 28, 2007 at the Kentfield campus in Parking Lot 9 west of the existing Science Center, where a test bole was drilled. The drilling is the primary source of noise associated with this construction project. The drilling is accomplished with a truck and trailer based drill rig; a larger diesel-powered compressor runs the drilling equipment. During the drilling of the test hole, the initial drilling generated noise levels about 78 to 79 dBA at 50 feet. The drill bit was basically pushed into the ground. After about 30 minutes, the drill bit encountered more resistance and the noise level increased to about 86 dBA at a distance of about 50 feet. Measurements were made at several different positions around the drill rig with similar results. Additional noise measurements

Table 4.9-3 Typical Ranges of Energy Equivalent Construction Noise Levels at 50 Feet, L_{eq} in dBA

	Office Building, Hotel, Hospital, School, Public Works		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II
Ground Clearing	84	84	84	84
Excavation	89	79	88	78
Foundations	78	78	88	88
Erection	87	75	79	78
Finishing	89	75	84	84

Notes: I = All pertinent equipment present at site.
II = Minimum required equipment present at site.
Source: U.S. Environmental Protection Agency, 1973.

were made at a distance of 100 feet west of the drill rig where the level was reduced to 78 dBA, and at 400 feet to the west of the drill rig where the noise level was reduced to 60 to 62 dBA. The attenuation rate between the 100-foot and the 400-foot positions indicated some excess attenuation that is not uncommon and normally results from ground absorption. This construction activity generates noise levels similar to excavation and other construction activities using large diesel-powered internal combustion engines.

It is anticipated that it would take 2 to 3 hours to drill each hole. There would be up to six drill rigs operating in the project area at one time. The nearest residences are located east of the construction site. Noise levels at these homes resulting from the drilling equipment would typically range from 70 to 80 dBA.

Average noise levels at 100 feet from the more typical construction activity on the campus would range from 70 to 80 dBA during busy construction periods. These noise levels would drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. Intervening structures would result in lower noise levels, especially for activities below grade. Noise levels would be elevated at nearby residences by 10 to 20 dBA during typical busy construction periods, and by up to 30 dBA during drilling activities. On-campus buildings, outdoor areas, and residences would be intermittently exposed to high levels of noise (75 to 85 dBA) throughout the construction period. The large noise level increases over extended periods of time would be significant.

Table 4.9-4 Construction Equipment 50-Foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)[a.b]	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[c]	70	Continuous
Compressor (Other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous

Table 4.9-4 *continued*

Equipment Category	L_{max} Level (dBA)[a,b]	Impact/Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

[a] Measured at 50 feet from the construction equipment, with a "slow" (1-second) time constant.
[b] Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.
[c] Portable air compressor rated at 75 cubic feet per minute (cfm) or greater and that operates at greater than 50 pounds per square inch (psi).
Source: Illingworth & Rodkin, Inc., 2007.

Construction truck traffic would occur intermittently through the years of construction. The numbers of daily truck trips would vary depending upon the location, place, and intensity of activity.

Mitigation Measure NOISE-1: Construction equipment shall be well-maintained and used judiciously to be as quiet as practical. Contract specifications shall incorporate the following measures, as appropriate:

(a) Limit demolition and construction activities to daytime hours between 7:00 AM and 5:00 PM.

(b) To the extent feasible, route construction truck traffic directly to campus construction sites via Ignacio Boulevard.

(c) Use "quiet" models of air compressors and other stationary noise sources where technology exists.

(d) Equip all internal combustion engine-driven equipment with mufflers that are in good condition and appropriate for the equipment.

(e) Locate all staging areas and stationary noise-generating equipment, such as air compressors and portable power generators, as far away as possible from residences or noise-sensitive campus areas and buildings.

(f) Prohibit all unnecessary idling of internal combustion engines.

(g) Notify all adjacent residents and campus staff and students of the construction schedule in writing or by posting signs.

(h) Erect a temporary noise control blanket barrier on the geothermal drill rig on the side facing adjacent residences or noise-sensitive campus areas or buildings. Noise control blanket barriers can be rented or purchased and quickly erected.

(i) Designate the Campus Construction Manager as the campus noise disturbance coordinator, responsible for responding to complaints about construction noise. The name and telephone number of the Campus Construction Manager shall be posted at the construction site and made available to adjacent residents prior to the onset of construction.

(j) Provide a written schedule of "noisy" construction activities (e.g., geothermal drilling) to nearby residents.

(k) Prohibit construction worker radios from being audible beyond the limits of the construction site.

The combination of the above measures would reduce construction noise but not to a less-than-significant level. This impact would remain significant and unavoidable during the construction phase. (SU)

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4.10 PUBLIC SERVICES

INTRODUCTION

This section describes the Bond Spending Implementation Plan's potential impacts on fire protection and police services and facilities that serve the Indian Valley campus.

ENVIRONMENTAL SETTING

FIRE PROTECTION SERVICES

Novato Fire Protection District Services

The Novato Fire Protection District provides fire protection and emergency medical services to the campus.

The Novato Fire Protection District (NFPD) provides fire protection and emergency medical services to the Indian Valley campus. The NFPD services include but are not limited to structural fire suppression, wildland fire suppression, response to hazardous materials incidents, urban search and rescue, water rescue, vehicle extrication, technical rescue, and basic life support and advanced life support medical services (NFPD, 2007).

Staffing. The NFPD's daily emergency response staffing is 20 personnel. This staffing includes one battalion chief, four three-person engine companies, one three-person truck company, and two two-person paramedic ambulances (NFPD, 2007).

All NFPD personnel are either emergency medical technicians (EMTs) or paramedics. Most engine companies are staffed with at least one firefighter/ paramedic, and thus have the ability to administer advanced life support (ALS) pre-hospital emergency medical care immediately upon their arrival. The NFPD's two ambulances are staffed with two paramedics each and respond along with an engine company to all medical emergencies (NFPD, 2007).

Calls for Service. Each year, NFPD emergency response personnel respond to more than 4,700 incidents, of which approximately 3,000 (or 64 percent) are medical in nature (NFPD, 2007).

Responding Fire Stations. The closest fire stations to the Indian Valley campus are (1) Station 1, located at 7025 Redwood Boulevard about 1.5 miles northeast of campus; and (2) Station 4, located at 319 Enfrente Road about 1.5 miles southeast of campus.

At Station 1, current staffing consists of one battalion chief, one three-person Type 1 paramedic engine company, one three-person truck company, and one two-person ALS paramedic ambulance. Personnel at Station 1 also staff, as

needed, a Type III engine, a water tender, and a heavy rescue squad. Station 1's primary emergency response zone is the downtown Novato area. Units from this station also respond as second due units to incidents in the remainder of the district (NFPD, 2007).

At Station 4, current staffing consists of one three-person Type 1 paramedic engine company and one two-person ALS paramedic ambulance. Station 4's primary emergency response zone is the area south of Highway 37 and Novato Boulevard. Units from this station also respond as necessary to incidents in the response zones of Station 1 and Station 2 (located at 450 Atherton Avenue) (NFPD, 2007).

Existing On-Site Fire Flow

The College of Marin's engineering consultant obtained fire flow (emergency water flow) testing requirements from the NFPD and conducted fire flow testing in September and October 2005 in coordination with the North Marin Water District (NMWD). The consultant reviewed the fire flow test data with the NMWD and the NFPD fire marshal. No fire flow deficiencies were noted. The assessment did note, however, that many existing structures on the Indian Valley campus do not have fire sprinkler systems (Steinberg Architects, 2006a).

Existing Emergency Access

The existing facilities assessment prepared by the College of Marin's engineering consultant noted that, according to the NFPD fire marshal, NFPD access to existing structures on the Indian Valley campus is poor (Steinberg Architects, 2006a).

Existing Fire Alarm System

The Indian Valley campus uses a Simplex fire alarm system that has been operating since 1974. The fire alarm system is distributed through the campus via cables in underground conduits. The system notifies the NFPD in the event of a fire . However, many buildings have equipment that is non-compliant with current building codes.

POLICE SERVICES

The Marin Community College Police Department provides police services to the Indian Valley campus. The police department is part of a countywide mutual aid agreement and contracts with other agencies as needed to augment services (Lacy, 2007).

Staffing

The Marin Community College Police Department employs seven sworn officers: one chief, one sergeant, and five officers. The department also employs two

part-time sworn officers, along with one non-sworn employee for office duty, one part-time Health and Safety employee, and two (one current) Police Cadets (part-time non-sworn) for parking control and non-hazardous reports. The department is currently short-handed by one officer (Steinberg Architects, 2006c; Lacy, 2007).

The department ensures that one officer is available to cover both the Indian Valley and Kentfield campuses 24 hours a day, seven days a week. The department operates three shifts, providing one sworn officer per shift (Lacy, 2007).

A Marin Community College Police Department office is located in the corporation yard on the Indian Valley campus.

A Marin Community College Police Department office is located in the corporation yard (at Building 22) on the Indian Valley campus. While the department is based on the Kentfield campus (Building TB-1), one officer visits the Indian Valley campus every day. When the officer is not on campus, people needing service on the Indian Valley campus must notify the police administrative office at the Kentfield campus. Assuming there is no traffic, the average travel time between the Kentfield and Indian Valley campuses is 20 minutes. Due to the small size of the department, there are times (during evenings, nights, and weekends) when one or the other of the campuses has no on-site police coverage. Should an emergency arise during these times, Marin County law enforcement agencies may provide mutual aid services. The same would be true if the campus police department needed back-up (Steinberg Architects, 2006c; Lacy, 2007).

Calls for Service

For the three-year period from 2003 to 2005, the Marin Community College Police Department responded to or initiated 50,562 calls for service on the two campuses. Non-sworn police personnel responded to or initiated 16,004 (or 32 percent) of these calls, and sworn personnel responded to or initiated the remaining 34,558 calls (68 percent). Sworn personnel thus responded to or initiated an average of 960 calls per month, 32 calls per day, or 11 calls per shift (Steinberg Architects, 2006c; Lacy, 2007).

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines provides that a project would have a significant impact on public services if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts in order to maintain acceptable

service ratios, response times, or other performance objectives for any of the public services:

- Fire protection;
- Police protection;
- Schools;
- Parks; or
- Other public facilities.

For fire protection/emergency medical and police services, Appendix G further provides that a project would have a significant impact if it would:

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

LESS-THAN-SIGNIFICANT IMPACTS

Fire Protection and Emergency Medical Services

The project would not create a need for new or altered fire protection/emergency medical facilities or equipment, since enrollment and building area at the Indian Valley campus would not increase substantially.

The Implementation Plan at the Indian Valley campus would be constructed over six years. At completion, the campus is expected to have an enrollment of about 1,180 students, which is about a 19-percent (193-student) increase over the 2006-2007 enrollment of 987 students. The number of faculty and staff (120 people) would not change. Building area at the campus would increase by about 25,000 to 37,000 gross square feet. One new building would be constructed, a new Main Building Complex on the north side of Ignacio Creek, and two buildings would be substantially renovated, Pomo 1 and 2 for the Transportation Technology Complex. Pomo 4 and three existing power plants on the campus would have minor modernization. No buildings are proposed for demolition at this time.

The enrollment and building area increases may create new demand for fire protection/emergency medical services. Project construction may also temporarily increase demand (due to possibilities for fire or injury). These demand increases would not be large enough to create a need for new or altered Novato Fire Protection District (NFPD) facilities or equipment.

Emergency water flow is expected to be adequate for the project. If fire sprinkler and/or fire alarm systems are provided in new and remodeled buildings, the project would improve fire protection on campus (which could reduce demands on NFPD services). Regardless of whether these systems are included,

however, the project is not expected to create a need for new or altered NFPD facilities or equipment.

Police Services

The project would not create a need for new or altered police facilities or equipment, since enrollment and building area at the Indian Valley campus would not increase substantially (see description under "Fire Protection and Emergency Medical Services" above). With development under the Implementation Plan, the police office would remain in its current location in the corporation yard at Building 22.

The enrollment and building area increases may create new demand for police services. Project construction may also temporarily increase demand (due to possibilities for vandalism, etc.). These demand increases would not be large enough to create a need for new or altered Marin Community College Police Department facilities or equipment, however.

In addition, the Implementation Plan contains extensive design guidelines to address landscape lighting and security. The Implementation Plan also contains a design guideline calling for open sight lines, clear circulation, lack of hidden corners, and proper lighting in buildings, along with highly visible security cameras and call-points (Steinberg Architects, 2006). These measures may help to prevent crime and thus may help reduce the need for police services.

POTENTIALLY SIGNIFICANT IMPACTS

The following section addresses potentially significant impacts as related to public services from adoption of the Bond Spending Implementation Plan, based on the significance criteria identified above.

Impact SERVICES-1: The project would increase the number of students and the amount of building area on the Indian Valley campus, thereby increasing exposure of people and structures to wildland fire hazards. (PS)

The Indian Valley campus adjoins undeveloped open space, an area of open grassland and woodland that is subject to elevated fire hazard risk and emergency response constraints. The campus is therefore is susceptible to wildland fire hazards. Existing buildings on the campus have wood shingle roofs and some are not sprinklered or not fully sprinklered. The Bond Spending Implementation Plan would provide new code-compliant equipment and systems on all new and renovated projects, including fire sprinklers and addressable systems compatible with NFPD standards as discussed with the NFPD in project-related schematic design review in 2007. Building renovations proposed as part of the project would provide new fire alarms, monitoring systems, and new sprinklers. The new Main Building Complex would meet current code requirements.

Mitigation Measure SERVICES-1: The Marin Community College District shall:

(a) Comply with applicable laws and regulations, including Urban-Wildland Interface Code of the Novato Fire Protection District, 2005-1 (2005). This includes maintenance of defensible space between structures and other measures as directed by the Novato Fire Protection District.

(b) Coordinate plans for adding a fire alarm/monitoring system with the Novato Fire Protection District.

(c) Work with the Novato Fire Protection District and/or the State Architect to ensure that all new building construction meets current code requirements.

The combination of the above measures would reduce the impact to a less-than-significant level. (LTS)

Impact SERVICES-2: Depending on final site and building designs, the Bond Spending Implementation Plan could continue or worsen existing emergency access problems on the campus. (PS)

The project proposes few changes to the existing vehicle access and circulation patterns on the Indian Valley campus. The Bond Spending Implementation Plan Circulation Plan shows private vehicle access restricted to Ignacio Boulevard and the parking lots, with the perimeter loop road remaining for maintenance, service, and emergency use only. The main drop-off and bus stop would remain at the existing location at Parking Lot 4. Four new fire hydrants would be provided at the new Main Building complex. A total of four fire/maintenance gates would be provided off Ignacio Boulevard and the Perimeter Road. In addition, the modernization of Pomo 1 and 2, the Transportation Technology Complex, would include widening the existing pedestrian path to the north of the buildings for fire vehicle access as requested by NFPD at the schematic design document review in 2007.

In addition, the Implementation Plan contains the following design goals and principles that would assist with emergency evacuation (Steinberg Architects, 2006d):

- Provide campus gateways at key access points.
- Promote a pedestrian-oriented, universally accessible campus.
- Create a network of routes that supports an ease of travel for all levels of mobility and that accommodates the rich mix of students arriving at different times of day.
- Provide clear, consistent, and concise signage at key orientation points.

The Implementation Plan also contains a design guideline to "design all primary pedestrian surfaces to take fire truck load" (Steinberg Architects, 2006d).

As noted under "Environmental Setting" above, NFPD staff have indicated that access to existing structures on the Indian Valley campus is poor. While the Implementation Plan proposes relatively few access and circulation changes, it may offer an opportunity to improve NFPD access to structures.

> *Mitigation Measure SERVICES-2: The Marin Community College District shall coordinate final site and building plans with the Novato Fire Protection District and Marin Community College Police Department to ensure that long-term emergency access to structures and fire hydrants is adequate. (LTS)*

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4.11 PUBLIC UTILITIES

INTRODUCTION

This section describes the Bond Spending Implementation Plan's potential impacts on water, wastewater, and solid waste. Existing providers of these utilities and services for the Indian Valley campus are described. For evaluation of impacts on the storm drainage system, please refer to Section 4.4, Hydrology and Water Quality, of this EIR.

ENVIRONMENTAL SETTING

WATER

The North Marin Water District provides water service to Novato, including the Indian Valley campus.

Water Service in Novato

The North Marin Water District (NMWD) provides water service to Novato, including the Indian Valley campus. About 80 percent of NMWD water comes from the Russian River (supply purchased from the Sonoma County Water Agency), and the remaining 20 percent comes from Stafford Lake in Novato (NMWD, 2007a).

The NMWD Novato service area has a slight current deficit in water, but NMWD expects that additional imported Sonoma County Water Agency supplies and recycled water use would meet projected demand in the future. As of 2005, existing supply in the Novato service area was 12,010 acre-feet per year (afy) and demand was estimated at 12,125 afy. At build-out of the service area in 2030, supply is expected to be 15,694 afy and demand is estimated at 15,444 afy (County of Marin, 2007a).

On-Site Water Facilities

Domestic Water. Two main water lines serve the Indian Valley campus. One line is located under the perimeter road, and the other is located under Ignacio Boulevard (Steinberg Architects, 2006a). There are 16 water meters on the campus, 7 of which are dedicated to irrigation only (NMWD, 2007c).

As part of an existing facilities assessment, the College of Marin's engineering consultant reviewed existing water supply with NMWD staff. The assessment concluded that the NMWD system was strong, with moderate pressure due to nearby NMWD water storage and transmission mains. No water supply deficiencies were noted for the Indian Valley campus (Steinberg Architects, 2006b).

Irrigation. The NMWD also provides irrigation water to the campus. As part of the existing facilities assessment, the Marin Community College District's landscape architects found that only 40 percent of the irrigation system on the campus is functioning (Steinberg Architects, 2006a).

WASTEWATER

Wastewater Collection and Treatment

The Novato Sanitary District provides wastewater service to the Indian Valley campus.

The Novato Sanitary District (NSD) provides wastewater service to the Indian Valley campus. The NSD operates two wastewater treatment plants: the Novato Treatment Plant, which serves the northern two-thirds of Novato, and the Ignacio Treatment Plant, which serves the southern third of the city. Each treatment plant provides primary and secondary treatment plus ammonia removal and filtration. During the summer months, the treated water is recycled and used to irrigate pastures and operate a wildlife pond adjacent to Highway 37. During the winter months, the treated water flows to San Pablo Bay via an outfall pipe (NSD, 2007).

Currently, the Novato Treatment Plant handles 3.60 million gallons per day (mgd), which represents 79 percent of its 4.53-mgd (dry weather) capacity. The Ignacio Treatment Plant handles 1.60 mgd, which also represents 79 percent of its 2.02-mgd (dry weather) capacity. Both plants are expected to reach their capacities by 2025 (County of Marin, 2007a).

On-Site Wastewater Lines

Wastewater lines on the Indian Valley campus consist of a 6-inch main collection line that crosses Ignacio Creek and laterals to individual buildings. The Marin Community College District's engineering consultant conducted an assessment of an 1,800-linear-foot portion of the main collection line in October 2005. The assessment found deficiencies that included sagging in portions of the system, a joint separation, settling of manholes, and root intrusion into several joints. The assessment recommended that the entire system be hydroflushed regularly (at least once a year), the line over the creek be realigned, and root intrusion at all affected joints be removed (Steinberg Architects, 2006c).

SOLID WASTE

Solid Waste Collection and Recycling Services

Novato Disposal provides solid waste collection service to the Novato area, including the Indian Valley campus. Recycling facilities include a recycling center at 7576 Redwood Boulevard that accepts glass, plastic, metal cans, newspaper, cardboard, and mixed household/office paper (Novato Disposal, 2007).

Landfill

Most solid waste from Marin County is disposed at the Redwood Landfill, a permitted Class III disposal site located north of Novato. The landfill is situated on almost 420 acres, of which 222.5 acres are used for disposal and accept waste from residential, commercial, and institutional customers as well as green and wood waste, scrap metal, and inert waste. The landfill expects to add a resource recovery service in the next few years (Jones, 2007).

Based on its currently permitted capacity of 19.1 million cubic yards, the Redwood Landfill has a remaining life of about 17 years.

Current Landfill Capacity. The landfill's currently permitted capacity is 19.1 million cubic yards. Based on its currently permitted capacity, the Redwood Landfill has a remaining site life of about 17 years and its earliest possible closure date is 2024 (Jones, 2007).

Proposed Landfill Expansion Plans. Currently proposed expansion plans estimate that the landfill could extend its site life by as many as 13 years, to 2037, depending on permitted revisions to the rate of fill. Alternatives evaluated in an EIR prepared for the landfill expansion could extend the site life to as late as 2051. Expansion plans that could affect the amount of waste that can be accepted at the landfill include the following:

- Changes to the landfill design, including increasing the landfill's capacity and modifying the landfill's final contours. These changes would increase the total capacity of the landfill to 34.8 million cubic yards, enabling the landfill to accept waste from areas outside of Marin County.
- Changes to waste operations, including changes in the quantity and types of waste received. Currently, the landfill accepts non-hazardous waste, including residential waste, agricultural waste, commercial waste, and construction and demolition wastes. The landfill has requested permits to expand its recycling and composting programs, which would process additional green and wood materials. Additional requests include changes in the facility's sludge processing.
- Changes to the environmental controls at the landfill, including changes to the permitted design of the leachate collection and removal system, along with perimeter levee reconstruction, changes in surface water management, changes in landfill gas management, changes in the landfill cover design, and changes in the approach to remediating an unpermitted waste disposal area on the site.

The landfill expansion plans are currently under environmental review, with local and State permits pending (County of Marin, 2007a).

Acceptance of Asbestos Waste. According to Redwood Landfill staff, as of March 22, 1993, the landfill has accepted all non-friable and less-than-one-percent friable asbestos waste. Redwood Landfill staff note that crushed or friable asbestos waste that cannot be accepted at the Redwood Landfill site can be disposed at other sites that are set up to handle asbestos waste, such as

Altamont Landfill in the East Bay (Steinberg Architects, 2006b), which is located approximately 70 miles from the Indian Valley campus.

Marin County Plans and Requirements

Marin County Integrated Waste Management Plan. The California Integrated Waste Management Act (CIWMA) required all cities and counties to develop Integrated Waste Management Plans to outline how each agency was to meet the 25-percent and 50-percent mandates of waste reduction by the year 2000. In response, Marin County's public agencies, private waste haulers, and facility operators developed Marin County's Integrated Waste Management Plan, which was adopted in April 1998.

The Marin County Integrated Waste Management Plan identifies recycling programs necessary to meet the State's 25-percent and 50-percent recycling mandates and incorporates a Countywide Siting Element (CSE) and Regional Summary Plan (RSE). The County prepared and adopted its CSE in 1995 in accordance with provisions of the California Integrated Waste Management Act. The CSE was developed to document the waste disposal capacity needed to accommodate solid waste generated for disposal by Marin County and its cities and towns for a 15-year period, (i.e., 1995 through 2010). The CSE sets forth goals and policies to guide Marin County's disposal practices. Capacities of solid waste disposal facilities coupled with future annual countywide solid waste disposal estimates are presented to assess the need for expansion of existing facilities and/or siting of new facilities within the next 15 years. In addition, the CSE details criteria and a process for evaluating proposed disposal sites.

In 1996, Marin's cities and towns, along with the County, formed the Marin Hazardous and Solid Waste Joint Powers Authority (JPA). The JPA provides household hazardous waste collection, and recycling and disposal information to ensure Marin's compliance with State recycling mandates and other education for the citizens and businesses of Marin County. The JPA is comprised of the cities and towns of Belvedere, Corte Madera, Fairfax, Larkspur, Mill Valley, Novato, Ross, San Anselmo, San Rafael, Sausalito, and Tiburon, and the County of Marin. In 1997, the California Integrated Waste Management Board (CIWMB) recognized the JPA as a Regional Agency. This Regional Agency status allows the JPA members to report to the State as one political body (instead of 12) as was previously required.

Following the establishment of the JPA, the County in conjunction with the JPA has updated the Integrated Waste Management Plan approximately every five years. In addition, the County and the JPA issued a Regional Integrated Waste Management Plan Report (RIWMP Report) that both updates the Integrated Waste Management Plan and serves as a current planning document summarizing waste management problems facing Marin. The RIWMP Report identifies actions necessary to comply with CIWMA requirements for documenting source reduction and recycling efforts. In addition, the RIWMP

Report assesses solid waste disposal capacity requirements to meet the County's disposal needs through the subsequent 15-year period.

Recycling/Reuse Requirements for Construction and Demolition Debris. To help carry out the state's waste reduction mandates, Marin County has adopted requirements for reduction and recycling of construction and demolition debris. In adopting the regulations (County of Marin, 2007b), the County found that "except in unusual circumstances, it is feasible to divert at least fifty percent of all C&D [construction and demolition] debris from most construction, demolition, and renovation projects."

The regulations require that applicants for construction, demolition, and renovation projects submit a waste management plan (WMP) to the County that estimates the amount (volume or weight) of debris that will be generated, the amounts that can be reused or recycled, and the amount that will be sent to a landfill. The County's Community Development Agency reviews WMPs for feasibility and returns approved WMPs to applicants with construction or demolition permits.

Applicants must then submit documentation, such as receipts or reports that are issued by the vendor, facility, or waste hauler that collected or received each type of material and that show the volume or weight of the material received. To issue these receipts or reports, the vendor, facility, or waste hauler must have a minimum diversion rate of 50 percent as reported to the JPA.

The Community Development Agency may withhold issuance of the final occupancy permit for a project until the agency has approved the project's recycling/reuse documentation. The agency can only approve the documentation if it indicates that at least 50 percent of the construction and demolition debris generated by the project has been diverted. It should be noted that the Marin Community College District, while exempt from local land use controls, will review regulations such as those associated with construction/demolition debris and determine if compliance is feasible.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

The project would have a significant impact on water services if it would:

- Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or

- Require new or expanded entitlements to have sufficient water supplies available to serve the project if existing entitlements and resources are not adequate.

The project would have a significant impact on wastewater services if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; or
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

The project would have a significant impact on solid waste disposal services if it would:

- Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs; or
- Not comply with federal, State, or local statutes and regulations related to solid waste.

LESS-THAN-SIGNIFICANT IMPACTS

Water Service

The project would not require the NMWD to seek new water entitlements or to pursue additional water supply or storage projects (NMWD, 2007c, 2007d).

Projected Water Demand Increase. The Implementation Plan at the Indian Valley campus would be constructed over six years. At completion, the campus is expected to have an enrollment of about 1,180 students, which is about a 19-percent (193-student) increase over the 2006-2007 enrollment of 987 students. The number of faculty and staff (120 people) would not change. Building area at the campus would increase by about 25,000 to 37,000 gross square feet (gsf). One new building would be constructed, a new Main Building Complex on the north side of Ignacio Creek, and two buildings would be substantially renovated, Pomo 1 and 2 for the Transportation Technology Complex. Pomo 4 and three existing power plants would have minor modernization. No buildings are proposed for demolition at this time. The new Main Building Complex would receive water service (including chilled water) through new trenches.

The enrollment and building area increases would create new demand for water service. Based on the estimated building area increase of 25,000 to 37,000 gsf, the increase in water demand is estimated at 6,340 to 9,389 gallons per day

(gpd), not including irrigation demand (Lucas, 2007). Irrigation would create additional demand for NMWD water, although this demand would not increase substantially over existing conditions since no major new landscaping is proposed at the Indian Valley campus. It is likely that the campus is not currently using all of the water allotted to existing meters and that the remaining allotment could be assigned to the new uses on the site (NMWD, 2007d). However, when the campus was originally constructed the water main was sized for approximately 17 additional campus buildings that were never constructed. The construction of the new Main Building Complex is not expected to require a major expansion of on-site water lines. Nevertheless, the NMWD has requested a variety of water-conserving measures such as those proposed by the Implementation Plan and discussed below.

Implementation Plan Provisions. The Implementation Plan (Steinberg Architects, 2006d) contains provisions for reducing water use, including design guidelines that state as follows: "Reduce water use through careful specification of appliances, fixtures and fittings, i.e. movement detector taps and WC flush controls. Low flow urinals and toilets are preferred. Many water-use strategies and systems can be put in place. In order of good to best, use rainwater for irrigation (good), for toilet flushing (better), for domestic consumption (best). Incorporate leak detection systems."

The Implementation Plan (Steinberg Architects, 2006d) also includes the following design guidelines for irrigation:

- Use the adopted campus standard irrigation equipment.
- Continue to upgrade the irrigation system for water efficiency.
- Monitor water usage and seek future water use reductions.
- Install flow sensors where necessary to take advantage of the system controller's capabilities.
- Extend irrigation in areas where it is needed, especially parking lots.
- Repair damaged lines where necessary.
- Maintain large tree health to reduce watering needs in microclimates.
- Design planting for the microclimate in specific parts of the campus.

Conclusions. The water demand increase associated with the project (6,340 to 9,389 gallons per day) would not be large enough to create a need for new NMWD water entitlements or new or expanded NMWD water supply or storage projects. Implementation Plan design guidelines would assist in controlling and reducing future water demand.

While not necessary as mitigation for impacts on water supply, the Marin Community College District may wish to consider ways of meeting LEED standards for water efficiency in buildings and for greywater and stormwater

reuse. The District has committed to obtaining a minimum of LEED certification on all new projects with the goal of LEED silver on the new and renovated projects at the Indian Valley campus.

Wastewater Service

Since enrollment and building area increases at the Indian Valley campus would be relatively small and existing Novato Sanitary District (NSD) treatment facilities have excess capacity, it is expected that NSD would have sufficient capacity to handle the proposed new development.

Projected Increase in Wastewater Generation. As already described above, the Implementation Plan at the Indian Valley campus would be constructed over six years; at completion, student enrollment is expected to increase by about 19 percent and building area would increase by about 25,000 to 37,000 gross square feet (gsf). The enrollment and building area increases would create new demand for wastewater service. Based on the estimated building area increase of 25,000 to 37,000 gsf, the increase in wastewater generation is estimated at 5,072 to 7,511 gallons per day (gpd) (Lucas, 2007).

Implementation Plan Provisions. The Implementation Plan (Steinberg Architects, 2006d) contains provisions that would help to reduce wastewater, including design guidelines that state as follows: "Reduce water use through careful specification of appliances, fixtures & fittings i.e. movement detector taps and WC flush controls. Low flow urinals and toilets are preferred. Many water-use strategies and systems can be put in place. In order of good to best, use rainwater for irrigation (good), for toilet flushing (better), for domestic consumption (best). Incorporate leak detection systems."

Conclusions. The increase in wastewater generation is not expected to create a need for new or altered wastewater treatment facilities or cause any exceedance of Regional Water Quality Control Board wastewater treatment requirements.

Solid Waste Disposal Services

Impact on Landfill Capacity. The Redwood Sanitary Landfill is expected to have adequate capacity to serve the project.

As already described above, the Implementation Plan at the Indian Valley campus would be constructed over six years; at completion, student enrollment is expected to increase by about 19 percent and buildng area would increase by about 25,000 to 37,000 gross square feet (gsf). The enrollment and building area increases would generate additional solid waste requiring disposal at a landfill, but the waste increase would be relatively small and would not exceed the capacity of the landfill.

The proposed building construction and renovation on the campus would also temporarily generate solid waste. However, the Implementation Plan contains design guidelines stating that construction waste would be recycled, that demolition material would be evaluated for reuse, and that cut and fill on the site would be equalized to reduce soil transport and landfill costs (Steinberg Architects, 2006d).

Conflicts with Statutes and Regulations. The project is not expected to cause any conflicts with federal, State, or local statutes and regulations related to solid waste. The Marin Community College District, while exempt from local land use controls, would review regulations such as Marin County's waste management plan (WMP) and construction debris recycling requirements and determine if compliance is feasible. As described above, the Bond Spending Implementation Plan provides for recycling of more than 50 percent of the anticipated construction waste, meeting Marin County's requirement for a recycling rate of at least 50 percent.

Other Issues. Building renovation and construction may involve handling of hazardous waste, and ongoing activities on the campus may generate hazardous wastes. These issues are addressed in Section 4.5, Hazardous Materials, of this EIR.

POTENTIALLY SIGNIFICANT IMPACTS

Implementation of the project would not result in potentially significant impacts as related to public utilities.

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4.12 ENERGY AND SUSTAINABILITY

INTRODUCTION

This section of the EIR addresses both energy and sustainability as related to the proposed adoption of the Bond Spending Implementation Plan for the Indian Valley campus. The California Environmental Quality Act (CEQA Guidelines Appendix F) recommends that energy implications of projects be evaluated, with a special emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The District's efforts to reduce overall energy usage on the campus are addressed below.

Sustainability is defined in a variety of ways, but one definition is the following:

> *"…sustainability is defined as aligning our built environment and socioeconomic activities with the natural systems that support life. In the long run, sustainability means adapting human activities to the constraints and opportunities of nature. Central to this definition is meeting the needs of both the present and the future." (Marin County, 2005)*

"…combustion of fossils fuels in the transportation sector was the single largest source of California's greenhouse gas emissions in 2002, with the industrial sector as the second largest source, and electricity production from both in-state and out-of-state sources, the third largest …

California Energy Commission, 2005

The draft Marin Countywide Plan that is currently under review addresses a number of sustainability principles. These are addressed below as they may relate to the College of Marin, especially as related to energy use, natural resources, and the environment.

The issue of global warming associated with the emission of greenhouse gas emissions is addressed briefly herein, especially as related to energy consumption. However, greenhouse gas emissions are also briefly addressed in Section 4.9, Air Quality, of this EIR.

ENVIRONMENTAL SETTING

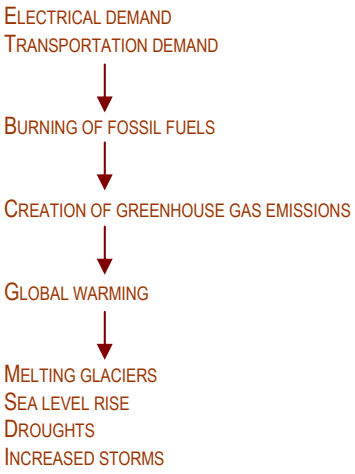
ENERGY DEMAND OVERVIEW

The Indian Valley campus requires energy for a variety of campus operations such as the following:

- Heating and cooling.
- Operation of campus equipment such as computers, laboratory equipment, and other machines.
- Lighting.
- Transportation fuel.

In the State of California, 78.3 percent of the electricity is provided by in-state resources but the majority of the sources are from non-renewable sources such as natural gas and coal. "Renewable" resources (e.g., wind power and solar energy) provide only 10.73 percent of California's electricity (California Energy Commission, 2007) (see Table 4.12-1).

The burning of fossil fuels to meet heating, cooling, and electrical demands is directly connected to the creation of greenhouse gases that contribute to global warming. Global warming concerns have come to the forefront of environmental and other policies at the local, State, and federal levels due to issues such as climate change, sea level rise, increased droughts and wildfires, and other significant changes on a global level.



Pacific Gas & Electric Company (PG&E) is the distributor of electricity and gas locally, and at both College of Marin campuses. While PG&E has embarked on a number of programs to increase the use of renewable resources, their primary sources of energy for electricity are from natural gas (47 percent), hydroelectric (22 percent), nuclear (12 percent), coal (2 percent), and oil (2 percent). Renewable sources of electricity were 15 percent of the total energy sources in 1999 for PG&E (Marin County, 2005), and these included geothermal, biomass, wind, and solar.

In fiscal year, 2005-2006, the Marin Community College District paid $743,900 in electricity-related charges and $66,400 in gas-related charges to PG&E (PG&E, 2007b). Approximately 31 percent of the electrical charges were for the Indian Valley campus and the remaining 69 percent were for the Kentfield campus. For the natural gas charges, only 2.5 percent were related to usage at the Indian Valley campus while the remainder were related to the Kentfield campus.

No renewable energy sources such as solar systems currently exist at either the Kentfield campus or the Indian Valley campus. At one time a study was completed on the feasibility of implementing a solar system for the heating of the pool at the Indian Valley campus, but it was decided at that time that it was not financially feasible (Thompson, 2007).

Building Energy Demand

In the U.S., buildings account for one-third of the total U.S. energy demand and about two-thirds of the electrical demand (U.S. Green Building Council, 2005). This demand is largely met by non-renewable resources. Buildings also account for about 30 percent of greenhouse gas emissions, 30 percent of raw material use, and 30 percent of waste output (U.S. Green Building Council, 2007a).

At the Indian Valley campus, a gas-fired system is used for almost all of the heating of buildings, and electricity is used for lighting and air conditioning. Many of the heating and air conditioning systems are outdated and inefficient. For

Table 4.12-1 California's Major Sources of Energy in 2005

Source of Energy	Percentage of Total for California	Sources of Electricity
Petroleum		
–In State	37.22	
–Alaska and Foreign	62.78	
Electricity		
– In State	78.33	Natural Gas (37.7%); Nuclear (14.5%); Large Hydro (17%); Coal (20%); Renewable (10.7%)
– Imports	21.67	
Natural Gas		
– In State	15.0	
– Canada, Rockies and Southwest	85.0	

Source: California Energy Commission, 2007.

example, as noted in the building assessments, many of the chillers are over 40 years old and in poor condition. Thus, many buildings have been without working air conditioning systems. Many components of mechanical systems such as heating, ventilation, and air conditioning (HVAC) equipment were found to be beyond their service life (Marin Community College District, 2006).

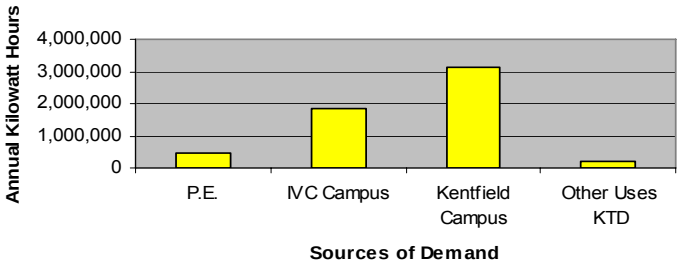
Many of the Indian Valley campus lighting systems were found to not be energy-efficient. Both incandescent and fluorescent fixtures are used, but many of these are outdated.

Energy use for both campuses is shown in Figures 4.12-1 and 4.12-2. As can be seen, the Indian Valley campus has significantly lower energy demands than the Kentfield campus.

Transportation Energy Demand

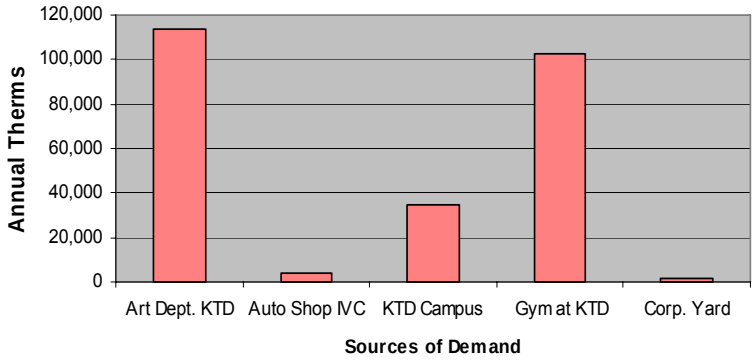
While energy demand is often associated with how buildings are constructed, operated, and maintained, or how machinery is operated, another huge element of energy demand is associated with transportation fuel used by students and faculty/staff coming to and going from the campus. No students or staff reside on the Indian Valley campus and on-campus housing is not required to be provided by community college districts. Therefore, many students commute from great distances and rely on private automobiles, resulting in a significant demand for fuel. The only public transit options available to students, faculty, and staff are buses run by the Golden Gate Transit District and taxi service. Bus service is addressed in Section 4.7, Transportation, of this EIR.

Figure 4.12-1 College of Marin Energy Use (2005-2006) in Annual KWH



Notes: KWH = Kilowatt hours
IVC = Indian Valley campus
KTD = Kentfield campus
Source: PG&E, 2007a.

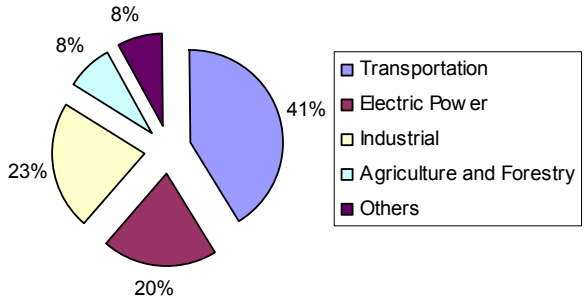
Figure 4.12-2 Natural Gas Usage at College of Marin (2005-2006)



Notes: IVC = Indian Valley campus
KTD = Kentfield campus
Source: PG&E, 2007b.

As mentioned above, the transportation sector accounts for the largest source of greenhouse gas emissions in the State of California due to the combustion of fossil fuels (see Figure 4.12-3).

Figure 4.12-3 Sources of California's Greenhouse Gas Emissions (by End Use Sector)



Source: California Energy Commission, 2005.

ECOLOGICAL FOOTPRINT

The term "ecological footprint" refers to a measure of the use of natural resources against the planet's actual biocapacity. It is expressed as the number of acres of a biologically productive area required to support one person, and can be extrapolated to population clusters, regions, or the entire planet. In Marin County, the average ecological footprint has been calculated to be 27 acres per person. This compares to the average American ecological footprint of 24 acres per person, the average for Italy of 9 acres per person, or the world average of 5.5 acres per person (Marin County, 2005).

To reduce the ecological footprint within Marin County, efforts are underway to increase the use of renewable resources, to provide fuel-efficient transportation choices, and to promote "green" building and business practices. Green building design and construction practices as defined by the U.S. Green Building Council include the following (Southface Energy Institute, 2007):

- Sustainable site planning
- Water efficiency
- Energy efficiency
- Conservation of materials and resources
- Protection of indoor environmental quality

The issues of transportation, use of renewable resources, and green building design are addressed under "Environmental Impacts and Mitigation Measures" below.

RELEVANT MARIN COUNTYWIDE PLAN PROVISIONS

The draft Marin Countywide Plan contains a number of policies related to energy and sustainability that address the following overall goals:

- Decreased energy use;
- Increased renewable resource use; and
- Adoption of green building standards.

Recycling and reuse of resources is especially relevant for the Indian Valley campus, where a number of buildings are proposed for renovation and new buildings would be constructed. Recovering construction and demolition materials has a number of advantages, such as (1) conserving limited space in existing landfills, (2) reducing disposal costs, and (3) reducing environmental effects of extraction, transportation, and processing of new materials.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANCE CRITERIA

The project would have a significant energy or sustainability impact if it would:

- Significantly increase energy demand for non-renewable resources during the construction and operation stages of the project;
- Involve building demolition, renovation, or new construction without recycling of waste materials;
- Increase peak period energy demands significantly;
- Result in significant increased transportation energy demands; or
- Limit opportunities for use of renewable energy resources (i.e., increase shading of rooftops or other structures where solar systems may be installed at a future date).

LESS-THAN-SIGNIFICANT IMPACTS

Increased Building Energy Demand for Non-Renewable Resources

One new building at the Indian Valley campus is proposed to include a variety of energy conservation elements and to be designed to achieve at least a Leadership in Energy and Environmental Design (LEED) "silver certification." The District has adopted a resolution that all new buildings will be LEED-certified. The three types of certification are silver, gold, or platinum, with each level representing an increased degree of energy and other conservation measures incorporated into the overall building design. All design and engineering firms hired by the District to work on the Bond projects must have LEED-certified professionals on their staff assigned to the District projects. In addition, the

District is using a LEED-certified commissioning agent for enhanced commissioning of all systems on new projects. This is in keeping with the District-stated mandate to achieve a minimum of LEED certification on all projects, with a goal of LEED silver on the new main projects. LEED certification is a program established by the U.S. Green Building Council and is described as follows:

> *The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. (U.S. Green Building Council, 2007a)*[1]

Overall energy demand at the Indian Valley campus may be reduced simply by the fact that building renovations would make existing buildings more energy-efficient. However, the new Main Building Complex would increase overall energy usage on the campus due to the additional new square footage requiring heating and cooling. It is not possible to compare existing vs. new energy demand because many of the building components at the campus have been non-functional. For example, many of the existing air conditioning systems are outdated and have been operating inefficiently. New buildings would be designed to have efficient systems and to allow a more comfortable environment for students.

Recently, the College commissioned a study, using computer modeling, to compare the energy use of a standard California-energy-code-compliant HVAC system with two high-efficiency LEED certified systems. Title 24 is the California code that requires specific energy conservation measures to be implemented in new construction. The "LEED" systems in the computer modeling included the following components:

- Variable speed chillers
- Enthalpy wheel energy recovery
- Nighttime cold water energy storage
- High-efficiency boilers
- Reduced window area
- Geothermal ground couple heat pump system
- "Cool roof" instead of base model roof

[1] For more information on the LEED program, the reader is referred to the website of the U.S. Green Building Council: http://www.usgbc.org/DisplayPage.aspx?CategoryID=19.

The results of the study showed that energy savings of as great as 68 to 69 percent could be achieved as compared to the energy consumed with Title 24-compliant structures (Alfa Tech Cambridge Group, 2006). When these energy savings are looked at over a 25-year life cycle, financial savings to the College could range from 1.1 to 2.6 million dollars. On an annual basis, savings of over $100,000 per year for the overall campus could result. The energy savings would be greatest for electricity, which is a large component of the campus energy demand.

With the proposed District's emphasis on LEED certification for new buildings and the implementation of a geothermal system to reduce energy demands, the Bond Spending Implementation Plan would not result in wasteful use of non-renewable energy resources during the operational stages of the project. In addition, the "Design Goals, Principles, Guidelines" document (Volume 1B) of the Bond Spending Implementation Plan addresses a number of "green building" principles that should be incorporated into all new buildings on the campus.

More information on the LEED Checklist can be found in Appendix D.

Construction Energy Demands

Construction-related energy demands would increase during the six-year buildout period. Diesel fuel and electricity are likely to be the greatest sources of construction energy. However, this energy demand is not expected to be wasteful and the savings over the life of the project by the conservation measures resulting from new buildings are likely to far offset any energy use increase during construction. This result is largely due to the inefficient building design and outdated equipment that currently creates unnecessary energy demands for campus operations.

Peak Period Energy Demands

Peak period energy demands (i.e., daytime hours and times of high air conditioning needs in hot weather) are not expected to be significant with adoption of the Bond Spending Implementation Plan. The proposal for a geothermal field at the campus tied into overall heating and cooling systems would reduce peak period demands by lowering the temperature differential for heaters and chillers. In addition, all new buildings would include energy conservation measures that would reduce energy requirements. No significant impacts related to peak period energy demands would result.

POTENTIALLY SIGNIFICANT IMPACTS

The following section addresses potentially significant impacts related to energy use and sustainability from adoption of the Bond Spending Implementation Plan, based on the significance criteria stated above.

Impact ENERGY-1: Transportation energy demands would increase at the Indian Valley campus due to an increase in students in the coming years. Without options for alternative transit, students would continue to use private vehicles for campus access, resulting in increased fuel consumption and associated impacts related to use of fossil fuels, air quality degradation, and associated global warming. (PS)

Without any on-site campus housing and only limited affordable housing near the Indian Valley campus, many students must rely on private automobiles for access to and from the campus. This automobile usage has associated impacts related to carbon dioxide emissions and global warming. (See Section 4.8, Air Quality, of this EIR.)

> *Mitigation Measure ENERGY-1: The District shall develop and implement a Transportation Demand Management (TDM) program as described in Mitigation Measure TRANSPORTATION-4. Refer to Mitigation Measure TRANSPORTATION-4 related to potential ways to reduce reliance on the private automobile for access to and from the campus. (LTS)*

Impact ENERGY-2: Modernization of the Transportation Technology Complex, renovation of existing buildings, and construction of the new Main Building Complex at the Indian Valley campus would produce a significant amount of debris that has the potential to be recycled. Building renovation and new construction would also produce debris that could be recycled. Some waste materials, such as asbestos, may be hazardous. (PS)

The exact amount of construction and renovation debris cannot be determined at this stage but would also result in increased demands for landfill capacity. Construction debris contains bulky, heavy materials such as the following:

- Concrete
- Wood
- Asphalt
- Gypsum (main component of drywall)
- Metals
- Bricks
- Glass
- Plastics
- Building components (doors, windows, plumbing fixtures)
- Site material (rocks, earth, stumps vegetation)

Hazardous materials from building modernization may include asbestos, which is often found in older buildings in association with insulation material and other hazards such as lead paints. Physical surveys, material sampling and records searches were conducted to determine the occurrence of existing and past hazardous materials on the campus. Hazardous building materials include lead-

containing paint (LCP), asbestos containing pipes (ACP), and asbestos containing materials (ACM). The assessments also determined if there is potential for the occurrence of polychlorinated biphenyls (PCBs) (Ninyo and Moore, 2006). These are addressed in more detail in Section 4.5, Hazardous Materials, of this EIR.

In general, all of the buildings contain hazardous building materials such as lead-based paint, asbestos-containing materials and the potential for small amounts of PCBs contained in the light ballasts, mercury in old thermostats, and old refrigeration and hydraulic systems. These materials do not pose a significant risk to occupants if undisturbed. However, these materials do degrade over time so that eventually these materials will have to be replaced and disposed of properly as renovations occur.

Mitigation Measure ENERGY-2a: Measures to increase recycling of construction and demolition material from implementation of the Bond Spending Implementation Plan shall include the following:

(1) Preparation of a "Materials Management Plan" prior to the onset of building demolition, renovation, or new construction that identifies (a) types of materials to be recycled or reused, (b) contractor specifications, (c) required record-keeping), (d) storage areas for materials, (e) recycling goals by types of material, and (f) coordination with hazardous materials disposal requirements. The Materials Management Plan shall ensure that at least 50 percent of non-hazardous construction waste from building renovation and new construction is recycled, in accordance with the Bond Spending Implementation Plan Design Guidelines.

(2) Inclusion of specific Materials and Resources LEED requirements in the specifications, including but not limited to the following as applicable to individual projects: Materials and Resources (MR) Prerequisite 1, Storage and Collection of Recyclables; Building Reuse MR credit 1.1 or 1.2; Recycled Content MR credit 4.1 or 4.2; and Certified Wood MR credit 7.

(3) Record-keeping on the campus of amounts and types of waste sent to recyclers.

(4) Documentation of "recyclable" materials from demolition and renovation that could possibly be incorporated into new buildings to reduce District costs.

(5) Provision of a list of local recycling operators to contact for any construction and demolition debris.

(6) Provision of adequate on-campus storage areas where recyclable materials can be separated and stored temporarily after demolition.

Mitigation Measure ENERGY-2b: The District shall ensure that all contractors comply with federal, State, and local regulations related to disposal of hazardous material contained in construction and demolition debris.

The combination of the above measures would reduce this potential impact to a less-than-significant level. The measures would also help the District meet LEED requirements for construction waste management, which include (1) developing and implementing a construction waste management plan, and (2) diverting 50 percent of construction and demolition wastes from landfills, or recycling or reusing 25 percent of these wastes on-site (U.S. Green Building Council, 2005b). (LTS)

Impact ENERGY-3: Implementation of the Bond Spending Implementation Plan could result in the preclusion of the use of alternative energy systems such as rooftop solar collectors unless specific steps are taken at the design stage of new buildings to prevent shading by buildings or vegetation. (PS)

At this time, it is not known exactly which buildings may be able to incorporate rooftop thermal or photovoltaic (PV) systems. Some roofs may be designed as "green roofs" to allow rooftop plantings as both a visual and energy conservation amenity. However, other roofs may be able at a future date to incorporate PV systems. The benefit of rooftop solar systems is that this location reduces requirements to use landscaped and other open space areas of the campus for future solar systems. Given the changing angles of the sun over the day and over seasons, it is important that rooftops be designed to take maximum advantage of available solar energy. Given the mild climate of Marin County, a huge opportunity exists to capture solar energy on campus buildings.

At the time of design review of renovated or new buildings, it is critical that the future incorporation of rooftop solar systems not be precluded by existing or future landscaping or other buildings. For example, if new tree plantings would result in a significant shading of rooftops at a future date during critical solar periods, the District should require a revision to the landscape plan. Similarly, a shading analysis for each new project would determine if other rooftops would be shaded by new buildings.

Mitigation Measure ENERGY-3: The District shall consider ensuring that rooftop structural systems of new and renovated buildings are designed to allow future solar systems. New landscaping plans shall be reviewed prior to implementation to ensure that new trees would not block solar access to rooftops that could be used for solar systems. (LTS)

Impact ENERGY-4: New landscape improvements such as outdoor lighting would result in increased electrical energy demands that would make increased demands on non-renewable energy sources. (PS)

The Bond Spending Implementation Plan calls for landscape and access improvements such as redesigned pathways and new outdoor lighting. With new lighting, the demand for electricity would increase on the campus, resulting in increased demands for non-renewable energy sources unless alternative energy sources are used.

> *Mitigation Measure ENERGY-4: The District shall incorporate the use of solar lighting for outdoor areas and pathways, assuming that adequate lumen levels to ensure safety can be provided by such systems, and, if required, the systems can be affordably integrated with existing lighting systems to remain. (LTS)*

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5. ALTERNATIVES

The CEQA Guidelines require that an EIR evaluate a range of reasonable alternatives to the project.

The State CEQA Guidelines (Section 15126.6) require that an EIR describe and evaluate the comparative merits of a range of reasonable alternatives to the project, or to the location of the project, that could feasibly attain most of the basic objectives of the project. The Guidelines further require that the discussion focus on alternatives capable of avoiding or substantially lessening any of the significant effects of the project, including the "No Project" Alternative. Furthermore, if the environmentally superior alternative is the "No Project" Alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives.

The project objectives are discussed in Chapter 3, Project Description. This discussion will focus on alternatives that could address potentially significant impacts. The EIR identifies potentially significant impacts that can be reduced to a less-than-significant level with implementation of mitigation measures (land use and planning, geology, biological resources, hydrology and water quality, hazardous materials, cultural resources, transportation, air quality, noise, public services, public utilities, and energy and sustainability).

Three alternatives are evaluated in this section:

- Alternative 1: No Project
- Alternative 2: Relocate New Main Building Complex to South Side of Ignacio Creek
- Alternative 3: No New Main Building Complex

5.1 SUMMARY OF ALTERNATIVES

ALTERNATIVE 1: NO PROJECT

Under this alternative, the proposed Bond Spending Implementation Plan would not be implemented. However, modernization of existing buildings is assumed to be necessary to meet current code and ADA requirements including: limited minor code upgrades to the Auto Technology Center, accessibility upgrades in compliance with ADA requirements, and life safety upgrades. The improvements would occur in a piecemeal fashion in contrast with the proposed project, which would offer an organized approach to modernizing the campus within a defined schedule. No structures would be demolished.

ALTERNATIVE 2: RELOCATE NEW MAIN BUILDING COMPLEX TO SOUTH SIDE OF IGNACIO CREEK

Under this alternative, the new Main Building Complex would be constructed at the location of the existing Miwok Cluster, which would be demolished. This

would place the new Main Building Complex in a more centralized location on the campus. The 217 parking spaces in Parking Lot 2 would be retained. The remaining components of the Bond Spending Implementation Plan would be the same as with the proposed project. This alternative would require complete conceptual redesign of the new Main Building Complex and it may present some challenging vehicular access issues. No new bridge across the creek would be built. The bio-retention area in the existing parking lot would be built to improve water quality downstream of the campus.

ALTERNATIVE 3: NO NEW MAIN BUILDING COMPLEX

With this alternative, no new Main Building Complex would be constructed and no new square footage would be added at the Indian Valley campus. The Auto Technology Center would be replaced in its current footprint and modernized. Other buildings on the campus would also undergo modernization to bring them up to code and to make them suitable for classroom space.

5.2 ALTERNATIVES CONSIDERED AND REJECTED

The one alternative considered but rejected was an alternative to demolish the Ohlone Cluster and the Library. These buildings both require modernization to meet current and future educational programming needs. This alternative was rejected because the buildings could not be rebuilt in their same footprint due to environmental concerns and their proximity to the creek. The square footage provided by these buildings was considered necessary for projected campus growth.

5.3 IMPACTS OF ALTERNATIVES

This section summarizes the impacts of each alternative as compared to the proposed project. When impacts are similar to the proposed project, this is called out. A comparison of the alternatives to the proposed project is provided in Table 5-1.

ALTERNATIVE 1: NO PROJECT

Impacts

The approval of the No Project Alternative would eliminate potentially significant (but mitigable) impacts of the proposed project (e.g., impacts on land use, geology, biological resources, hydrology and water quality, hazardous materials, cultural resources, transportation, air quality, noise, and energy and sustainability). No significant and unavoidable impacts such as construction noise would result from this alternative. No new Main Building Complex would be constructed and the parking lot would be left in its existing condition. No

Table 5-1 Comparison of Impacts of Project Alternatives (After Mitigation)

Environmental Issue Area	PP Proposed Project	ALT 1 No Project	ALT 2 Relocate New Main Building Complex to South Side of Ignacio Creek	ALT 3 No New Main Building Complex
Air Quality	LTS	LTS-	LTS	LTS-
Biological Resources	LTS	LTS-	LTS+	LTS-
Cultural Resources	LTS	LTS-	LTS-	LTS-
Geology/Soils	LTS	LTS-	LTS	LTS
Hazardous Materials	LTS	LTS-	LTS	LTS
Hydrology/Water Quality	LTS	LTS	LTS	LTS
Land Use/Planning	LTS	LTS	LTS	LTS
Noise	LTS/SU	LTS-	LTS/SU	LTS/SU
Transportation	LTS	LTS-	LTS	LTS
Services	LTS	LTS-	LTS+	LTS-
Utilities	LTS	LTS-	LTS-	LTS-
Energy/Sustainability	LTS	LTS+	LTS-	LTS-
Air Quality	LTS	LTS-	LTS	LTS

Notes: PP = Proposed Project
ALT 1 = No Project Alternative
ALT 2 = Relocate New Main Building Complex to South Side of Creek
ALT 3 = No New Main Building Complex
+ = Greater adverse impact than proposed project
- = Lesser adverse impact than proposed project
Source: A. Skewes-Cox, 2007.

access improvements would occur and no improvements to safety by placing a main building closer to the road would result. No improvements to water quality by the construction of bioswales and detention basins at the campus would occur. None of the beneficial impacts of the channel erosion control, stabilization, and restoration would occur under this alternative either, and conditions would continue to be addressed on a localized basis as existing improvements continue to be undermined and threatened.

Ability to Meet Project Objectives

The No Project Alternative would not support some of the project objectives as shown in Table 5-2. The limited modernization that would occur would help to meet project objectives. Such modernization is assumed to occur under the No Project Alternative.

ALTERNATIVE 2: RELOCATE NEW MAIN BUILDING COMPLEX TO SOUTH SIDE OF IGNACIO CREEK

Impacts

This alternative would not have some of the impacts associated with the new Main Building Complex proposed by the project, such as potential impacts to archaeological resources where such resources have been identified. Construction of the new Main Building Complex at the site of the Miwok Cluster would eliminate disturbance to natural areas of the campus; however, demolition of the Miwok Cluster would result in significant demolition debris and the overall campus square footage would be reduced.

Siting the new Main Building Complex at the location of the existing Miwok Cluster would consolidate student services and re-enforce the sense of a campus quad on the south side of the creek. At this location, the new Main Building Complex would draw students and visitors to the campus core, enhancing activity on the pathways connecting the building clusters, as compared to the proposed project, which would slightly disperse student and visitor activity over a greater portion of the campus and would reduce pedestrian activity at the campus core.

This alternative also would have vehicle access issues because a new site on the south side of the creek, like the existing Miwok Cluster, would have limited automobile access. Safety concerns could remain since little development would occur close to the road where access is improved.

Overall, it is assumed that the new Main Building Complex would have similar square footage to the Miwok Cluster. Thus, building square footage at the campus would not increase and associated increased water/wastewater demands would not occur.

Other impacts would be similar to those of the proposed project. The beneficial erosion control, stabilization, and restoration would occur under this alternative, which would address the threat to existing bridges and other structures along Ignacio Creek and main tributary.

Visually, this alternative would have a building more screened from the roadway and may result in less light and glare for nearby residents. However, these potential visual impacts were not considered significant for the proposed project

Table 5-2 Relationship of Alternatives to Project Objectives

Project Objectives	PP Proposed Project	ALT 1 No Project	ALT 2 Relocate New Main Building Complex to South Side of Ignacio Creek	ALT 3 No New Main Building Complex
1. Provide functional instructional and administrative space to meet program requirements.	X	O	X	O
2. Provide upgrades to the existing Indian Valley campus to serve the population in this area.	X	O	X	X
3. Provide job training and academic programs to assist the unemployed and underemployed in obtaining employment and advancement.	X	X	X	X
4. Provide lower division college classes for transfer students to 4-year university programs	X	X	X	X
5. Participate in a collaborative partnership with other educational providers, the business community, and local government to better serve the community.	X	X	X	X
6. Improve campus facilities to accommodate a total campus population of approximately 1,180 students at completion of the Bond Spending Implementation Plan.	X	O	O	O
7. Focus development within the existing central Indian Valley campus.	X	X	X	X
8. Obtain LEED certification on all new and renovated projects.	X	O	X	X
9. Provide a new Main Building Complex on the north side of Ignacio Creek to house many of the existing programs within a new modern facility and with shared resource spaces.	X	O	O	O

Table 5-2 *continued*

Project Objectives	PP Proposed Project	ALT 1 No Project	ALT 2 Relocate New Main Building Complex to South Side of Ignacio Creek	ALT 3 No New Main Building Complex
10. Modernize the Transportation Technology Complex (two buildings) including new auto tech labs and other instructional areas; replace existing outdated equipment and upgrade computer technology.	X	O	X	X
11. Provide for minor modernization to Pomo 4 building, which supplies program support space to the Transportation Technology Complex.	X	X	X	X
12. Upgrade the Pomo 1 and 2 buildings for energy conservation.	X	O	X	X
13. Improve disabled access on exterior pathways.	X	X	X	X
14. Enhance job training.	X	X	X	X
15. Incorporate "green building" practices into all capital improvement projects.	X	O	X	X

Notes: PP = Proposed Project
ALT 1 = No Project Alternative
ALT 2 = Relocate new Main Building Complex to South Side of Ignacio Creek
ALT 3 = No New Main Building Complex
X = Alternative would meet project objective
O = Alternative would not meet project objective or would meet objective to a lesser extent than the proposed project (i.e., would not substantially meet the objective).
Source: A. Skewes-Cox, 2007.

due to siting and proposed landscaping. Other impacts would be similar to the proposed project.

Ability to Meet Project Objectives

As shown in Table 5-2, this alternative would meet all of the objectives of the proposed project except for the objective to provide a new Main Building Complex on the north side of the creek and to allow expansion of the student

population. It cannot be determined if the reduced square footage would allow the projected growth of the campus over the six-year planning period. However, the reduced square footage is likely to limit student growth.

ALTERNATIVE 3: NO NEW MAIN BUILDING COMPLEX

Impacts

This alternative would have none of the impacts associated with the new Main Building Complex such as potential impacts to archaeological resources. However, few impacts have been identified for this building as proposed by the project.

The beneficial erosion control, stabilization, and restoration would occur under this alternative, which would address the threat to existing bridges and other structures along Ignacio Creek and main tributary.

Overall student growth may be more limited without this alternative due to reduced on-campus square footage, with subsequent reduced impacts related to traffic, water demand, wastewater demand, and service demands.

No new construction noise that could disturb nearby residents would occur in this area of the campus. No access improvements at the campus entrance would occur, and no new lighting would occur as associated with the new Main Building Complex proposed by the project.

Ability to Meet Project Objectives

As with the two other alternatives, this alternative would meet all identified project objectives except the objective to create a new Main Building Complex north of the creek and the objective to accommodate an increased student population.

5.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines require that the Environmentally Superior Alternative be identified. If the environmentally superior alternative is the No Project Alternative, the EIR must also identify an environmentally superior alternative from among the other alternatives.

The No Project Alternative would be the environmentally superior alternative because no new major impacts would occur at the campus in terms of land disturbance, construction, and other activities. However, this alternative would also not result in any new major energy savings that would occur due to the proposed geothermal system. The lack of new bioswales and detention basins would also mean that downstream water quality would not improve and stormwater flows would not be reduced.

In addition to the No Project Alternative, Alternative 3, No New Main Building Complex, would be the other Environmentally Superior Alternative because this alternative would result in lower air quality, biological resources, public services and utilities impacts than with the project and Alternative 2.

This alternative would meet most of the project objectives except it would not provide a New Main Building Complex on the north side of the creek and it likely would not accommodate a total campus population of 1,180 students due to a lower square footage than for the project.

6. CEQA CONSIDERATIONS

6.1 SIGNIFICANT IRREVERSIBLE EFFECTS

CEQA states that impacts associated with a proposed project may be considered to be significant and irreversible for the following reasons:

- Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes the removal or non-use thereafter unlikely;
- Primary impacts and, particularly, secondary impacts (such as a highway improvement that provides access to a previously inaccessible area) generally commit future generations to similar uses; and
- Irreversible damage can result from environmental accidents associated with the project.

This project would include the construction of one new building on the Indian Valley campus and the renovation/remodeling of other buildings. The structures are permanent buildings; therefore, their installation would constitute an irreversible use of these lands, as it is unlikely that the buildings would be removed for many years. The proposed project would irretrievably commit materials to the construction and maintenance of the new building. In addition, the construction and operation of the proposed project would result in the use of energy, including fossil fuels. The District is committed to reducing energy use and has proposed the installation of a geothermal system to minimize energy demand.

The project is not expected to result in any activities likely to result in accidents that could lead to irreversible environmental damage.

6.2 SIGNIFICANT UNAVOIDABLE IMPACTS

All potential impacts identified for the project could be mitigated to a less-than-significant level except for construction-related noise.

6.3 GROWTH INDUCEMENT

The new Main Building Complex would occur near the center of the campus. No wastewater or water lines associated with the project would cross undeveloped lands or have growth- inducing effects due to such infrastructure. All new development would occur within the existing boundaries of the College of Marin

Indian Valley campus. No significant growth inducement would be created by the project.

6.4 CUMULATIVE IMPACTS

The CEQA Guidelines require a discussion of the cumulative effects that could result from a project. As an overall master plan to be constructed over a six-year period, the project itself addresses the cumulative impacts of overall campus growth. No other projects are proposed in the vicinity of the Indian Valley campus (Grunt, 2007).

Cumulative traffic has already been addressed for the year 2013, as discussed in Section 4.7, Transportation, of the EIR. Overall, no significant cumulative impacts are expected and no additional mitigation measures would be required beyond those already recommended for the project.

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9. GLOSSARY AND ABBREVIATIONS

GLOSSARY

A-WEIGHTED SOUND LEVEL (dBA): The sound level measured on an instrument containing an "A" filter, which electronically simulates the frequency response of the human ear under an average intensity of sound.

ACCEPTABLE: Satisfies the evaluation criteria.

ADVERSE: A term used to describe unfavorable, harmful or detrimental changes in environmental conditions.

ALTERNATIVE: One choice of action from several that are concurrently possible.

AMBIENT NOISE: The all-encompassing noise associated with a given environment, being usually a composite of sounds from many sources near and far.

AQUIFER: A natural underground formation that is saturated with water, and from which water can be withdrawn.

ASSESSMENT: Determination of the nature, amount, importance, or value of a change in an environmental condition.

ASSIGNABLE SQUARE FEET (ASF): A physical planning term referring to the amount of floor space in a building that is usable by programs. ASF does not include hallways, bathrooms, or floor space used by heating, ventilating, and air conditioning equipment.

AVERAGE DAILY TRIPS: The number of vehicles passing a given point on a road going in a given direction during a 24-hour period.

BACKGROUND NOISE: See Ambient Noise.

BASELINE: The ambient environmental condition existing in the absence of project development. "Future baseline" is a description of conditions that could occur in the future assuming no project development.

BEDROCK: The solid rock that underlies gravel, soil, and other superficial material.

BUILDOUT: A condition in which all development allowed by an adopted plan has been completed.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL): The average continuous noise level over a 24-hour period, with special weighting factors applied to noise events occurring in the nighttime (10:00 PM to 7:00 AM), the evening (7:00 PM to 10:00 PM), and the daytime (7:00 AM to 7:00 PM).

CRITERIA POLLUTANTS: Ozone, carbon monoxide, nitrogen dioxide, inhalable particulates (particulate matter less than 10 microns), and lead, as defined by the California Air Resources Board.

CUMULATIVE IMPACT: Environmental impact of the project under study plus proposed/pending off-campus projects in the immediate vicinity of the project sites.

DAY-NIGHT AVERAGE SOUND LEVEL (Ldn): The A-weighted average sound level in decibels during a 24-hour period with a 10 dB weighting applied to nighttime sound levels (10:00 PM to 7:00 AM). This exposure method is similar to the CNEL, but gives the same weighting to the evening time period (7:00 PM to 10:00 PM) as it does to the daytime period (7:00 AM to 7:00 PM).

DECIBEL (dB): A unit for expressing the relative intensity (loudness) of sounds. The decibel is the logarithm of the ratio of the intensity of a given sound to the faintest sound discernible by the human ear.

DESIGN CAPACITY: The capacity at which a water distribution pipe, pump or reservoir or a wastewater pipe or treatment plant is intended to operate.

ENDANGERED: A species or subspecies of plant or animal whose prospects of survival and reproduction are in immediate jeopardy.

ENVIRONMENT: The natural and human physical conditions that exist in an area of study, including land, air, water, minerals, flora, fauna, ambient noise, traffic levels, safety levels, and objects of historic or aesthetic significance.

ENVIRONMENTAL IMPACT: The evaluation of change in an environmental condition with respect to explicit criteria.

ENVIRONMENTAL IMPACT REPORT: A public document prepared under the California Environmental Quality Act used by a governmental agency to analyze the significant environmental effects of a

proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid possible environmental damage.

EROSION: Process by which material is removed from the earth's surface (including weathering, dissolution, abrasion, and transportation).

ESTIMATE: A statement regarding future conditions based on non-mathematical analysis.

FAULT: A fracture or fracture zone along which there has been displacement of the sides relative to one another parallel to the fracture.

FEASIBLE: Capable of successfully being accomplished by reasonably available means.

GLARE: A light source, either reflected or direct, that is annoying or distracting.

GRADING: Alteration of existing slope and/or shape of the ground surface.

GRANITIC BEDROCK: Bedrock composed of any holocrystalline quartz-bearing plutonic rock.

GROUND RUPTURE: Seismically-induced fracturing of the ground surface.

GROUNDWATER: Water beneath the surface of the earth.

HAZARDOUS SUBSTANCE: A material or form of energy that could cause injury or illness to persons, livestock, or the natural environment.

HEADCUTTING: The progressive upstream erosion of a vertical face or drop in the bed of a stream channel.

IGNEOUS ROCK: Rock formed by the solidification of molten or partially molten material from within the earth.

IMPERVIOUS SURFACE: Ground surface that cannot be penetrated by water. Includes paved and compacted surfaces, as well as those covered by buildings.

INFILTRATION: With reference to water and wastewater conveyance lines, infiltration is the introduction of underground water, such as groundwater, into wastewater collection systems. Infiltration results in increased wastewater flow levels.

INFLOW: With reference to water and wastewater conveyance lines, inflow is surface water, such as rainfall runoff, that enters a wastewater collection system. Inflow results in increased wastewater flow levels.

INFRASTRUCTURE: Permanent utility installations, including roads, water supply lines, sewage collection pipes, and power and communications lines.

INTERSECTION CAPACITY: The maximum number of vehicles that has a reasonable expectation of passing through an intersection in one direction during a given time period under prevailing roadway and traffic conditions.

KILOWATT: A measure of the rate of electrical flow.

KILOWATT-HOUR: A measure of a quantity of electrical consumption.

LANDFILLING: A procedure for the disposal of solid wastes. The wastes are placed in a designated disposal site and covered with dirt or other fill material.

LANDSLIDE: Any downslope mass movement of rock or soil, including rock falls, earth flows, and landslides in the technical sense (a soil mass that retains its essential internal arrangement and becomes disjointed from its subsurface interface).

LESS THAN SIGNIFICANT: An environmental condition change that does not exceed a stated CEQA standard of significance.

LEVEL OF SERVICE: A measure of the mobility characteristics of an intersection, as determined by vehicle delay that is estimated by a volume-to-capacity (V/C) ratio. A V/C ratio of less than 0.60 corresponds to level of service "A," while a ratio of 1.00 and above corresponds to level of service "F."

LIQUEFACTION: A geologic phenomenon in which surface and near-surface materials (soils, alluvium, etc.) behave like a liquid during seismic shaking.

LONG-RANGE VIEWS: Views of distances greater than 2,000 feet.

METAMORPHIC ROCK: A geologic formation that is transformed from sedimentary deposits by contact with heat from intrusion of molten material.

MID-RANGE VIEWS: Views of distances ranging from 500 to 2,000 feet.

MITIGATION MEASURE: Action taken to reduce or eliminate environmental impacts.

MOBILE SOURCES: A source of air pollution that is related to vehicles, such as automobiles or buses.

NOISE: Annoying, harmful, or unwanted sound.

PASSIVE SOLAR DESIGN: The use of non-mechanical architectural features and landscape to control solar heat gain.

PEAK HOUR: In reference to public services infrastructure or transportation systems, the hour in which the greatest use occurs.

PERCENT SLOPE: A common way of expressing the slope of terrain, which is derived by dividing the change in elevation by the horizontal distance traversed. A 45-degree slope can thus be expressed as a 100-percent slope.

PERCOLATION: Downward movement of groundwater through soil and bedrock.

PROJECT: The whole of an action undertaken by or on behalf of The Board of Trustees of the Marin Community College District that has a potential for resulting in a physical change in the environment, either directly or indirectly.

RAPTOR: A bird of prey, such as a hawk, eagle, or owl.

RARE: A condition in which a species or subspecies, although not presently threatened with extinction, exists in such small numbers throughout its range that it may be endangered if its environment is degraded or reduced in size.

RECYCLING: A variety of processes by which reusable materials in the solid or hazardous waste streams are separated for reuse.

RETROFIT: Replacement of existing fixtures with new or modified fixtures to improve efficiency.

RICHTER MAGNITUDE: A logarithmic scale ranging from one to ten, used to express the total energy of an earthquake. An increase of one unit represents a 60-fold increase in energy.

RIPARIAN VEGETATION: Plant life associated with a natural body of water.

RIPRAP: A loose assemblage of broken rock or concrete.

SANITARY FLOW: That portion of wastewater flow that is generated by domestic, industrial, and commercial customers, as distinct from inflow and infiltration.

SEDIMENTATION: Process by which material suspended in water is deposited in a body of water.

SHORT-RANGE VIEWS: Views of distances between 0 and 500 feet, characterized by a high level of discernible visual detail.

SIGNIFICANT ADVERSE IMPACT: An environmental impact that exceeds a stated CEQA standard of significance. An economic or social change by itself is not considered a significant adverse impact. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

SIGNIFICANT UNAVOIDABLE ADVERSE IMPACT: An environmental impact that exceeds a stated CEQA standard of significance that cannot be reduced to a less-than-significant level with the implementation of feasible mitigation measures.

SILT: Soil composed of particles finer than fine sand and coarser than clay.

STATIONARY SOURCE: A source of air pollution that is not mobile, such as a heating plant or an exhaust stack from a laboratory.

SURFACE WATER: Water running in streams or rivers.

THERMS: A unit of energy use equal to 100,000 British thermal units (BTU).

TRANSPORTATION DEMAND MANAGEMENT: Programs designed to reduce demands on transportation systems by influencing how and when commute trips occur.

TRANSPORTATION SYSTEMS MANAGEMENT: Programs designed to encourage alternatives to private automobile use, such as increased reliance on public transit, carpooling, and bicycles.

VEGETATION COMMUNITY: A group of plant species commonly occurring together in roughly similar proportions.

VIEWSHED: The area that can be seen from a specified location.

VOLUME-TO-CAPACITY RATIO: In reference to transportation, ratio of peak hour use to capacity.

WATERCOURSE: The path followed by surface water flow; shown on U.S. Geological Survey maps as solid or dashed blue lines.

WATERSHED: The area of a landscape from which surface runoff flows to a given point; a drainage basin.

WILDLIFE CORRIDORS: A natural corridor, such as an undeveloped ravine, that is frequently used by wildlife to travel from one part of the campus to another.

ABBREVIATIONS

AC - FT/YR: Acre-feet (of water) Per Year

ADT: Average Daily Trips

ABAG: Association of Bay Area Governments

AQMP: Air Quality Management Plan

ASF: Assignable Square Feet

BAAQMD: Bay Area Air Quality Management District

BTU: British Thermal Unit

CEQA: California Environmental Quality Act

CFS: Cubic Feet Per Second

CNDDB: California Natural Diversity Data Base

CNEL: Community Noise Equivalent Level

CNPS: California Native Plant Society

CU.FT.: Cubic Feet

dB: Decibel

dBA: A-weighted sound level

DEIR: Draft Environmental Impact Report

EIR: Environmental Impact Report

EPA: US Environmental Protection Agency

FEIR: Final Environmental Impact Report

GPD: Gallons Per Day

GPM: Gallons Per Minute

GSF: Gross Square Feet

HVAC: Heating, Ventilating, and Air Conditioning

I/I: Inflow and Infiltration

KW: Kilowatt

KWH: Kilowatt-Hour

Ldn: Day-night Average Sound Levels

MGD: Million Gallons Per Day

MSL: Mean Sea Level

NAAQS: National Ambient Air Quality Standards

NOP: Notice of Preparation

OSHA: Occupational Safety and Health Administration (Federal)

PG&E: Pacific Gas and Electric Company

pH: A measure of the acidity or alkalinity of a solution, numerically equal to 7 for neutral solutions, increasing with increasing alkalinity, and decreasing with increasing acidity

PM_{10}: Inhalable Particulate Matter (under 10 microns in size)

PSI: Pounds Per Square Inch

ROG: Reactive Organic Gasses

RWQCB: Regional Water Quality Control Board

SOI: Sphere of Influence

TAC: Toxic Air Contaminants

TDM: Travel Demand Management

THC: Total Hydrocarbons

TOG: Total Organic Gasses

TSP: Total Suspended Particulate Matter

TSM: Transportation Systems Management

UBC: Uniform Building Code

USGS: United States Geological Survey

V/C: Volume-to-Capacity Ratio

APPENDIX A PUBLIC SCOPING MEETING COMMENTS

A public scoping meeting was held on the Indian Valley campus on March 28, 2007 and at the Kentfield campus on March 29, 2007. The projects for the campuses were described and the public was given an opportunity to talk about environmental issues of concern that should be addressed in the Environmental Impact Report.

The following public concerns regarding the Indian Valley campus were expressed at these meetings:

- Need to draw parking and traffic to the west end of the new Main Building.
- Issue of downstream runoff affecting houses.
- Construction noise.
- Geothermal drilling.
- Issue of repaving Ignacio Boulevard in 2007.
- Archaeological issues.
- Hazards during construction such as hazardous emissions.
- Odors and need for scrubbers and better ventilation.
- Whether operations would be changing.
- Activity at east end of campus such as parking lot use, associated noise.
- Need to keep bus route at center of “dog-bone”.
- Need to consider visitor parking only and short-term parking at east end of new Main Building.
- Issue of nighttime parking and possible exceptions to allow parking closer to buildings.
- Need to put high intensity uses at west end of new Main Building such as cafeteria and library.
- How entrance to bioswale area at east end of parking lots will be prevented.

APPENDIX B PROJECT RELATIONSHIP TO PLAN POLICIES

The project's relationship to applicable policies of the Novato General Plan is presented below.

The table presents each applicable policy and then discusses the project relationship to the policy (i.e., is the project consistent with the policy or would the project be in conflict with the policy). If the project is not consistent with the policy, a mitigation measure is identified to ensure project consistency with the policy.

Table B-1 Project Relationship to Policies of Novato General Plan (1996)

Policy	Project Relationship	Need for Mitigation to Ensure Consistency with Policy
LU Policy 2: Development Consistent with General Plan. Allow development at any density within the range shown by Land Use Designation Map provided applicable objectives policies and programs of all chapters of the General Plan are met. Maximum densities (top stated density range applied to gross acreage) may in some cases be achieved, but there is no guarantee of achieving the maximum density.	The project would include the modernization of several existing buildings, construction of a new educational building and access improvements at the Indian Valley campus. These facilities would be consistent with the site's "Community Facility" land use designation.	None necessary
LU Policy 3: Motorized Vehicle Access. Motorized vehicle access to Indian Valley College's campus shall not be provided via Indian Valley Road.	The project does not propose any new vehicle access roads to the campus. Improvements to existing campus entrances along Ignacio Boulevard are the only roadway improvements proposed by the project.	None necessary
LU Policy 4: Clustering of Development. Encouraging clustering of development on sites with environmental constraints in order to achieve environmental goals and attain gross densities within the range of the land use designation. Clustering of development may result in net densities on some portions of a site exceeding the maximum densities in LU Table 2.	The campus buildings are sited in four clusters. The clusters would be maintained with the project.	None necessary
LU Policy 5: Compatibility with Surroundings. Ensure that clustered development is compatible with the surrounding residential neighborhoods.	The campus presents a park-like setting. The building clusters are set back from Ignacio Boulevard with generous open space areas surrounding them. The new Main Building Complex would be constructed at the location of an existing parking lot and would be two stories in height. The project would be compatible with existing residential development.	None necessary
LU Policy 7: Growth Management. Recognize the available and planned capacity of infrastructure and public services when considering proposal for development.	The project would accommodate the moderate increase in student enrollment generated by population growth in Marin County. The project incorporates power- and water-conserving plumbing fixtures that would reduce demand on existing and planned infrastructure capacity.	None necessary

Table B-1 *continued*

Policy	Project Relationship	Need for Mitigation to Ensure Consistency with Policy
LU Policy 9: Constraints Analysis. Assess environmental constraints when considering development of lands with high environmental value or significant hazards. Encourage development sponsors to use such Constraints Analysis in designing their projects, to avoid unnecessary expense in redesigning their project to incorporate the issues defined by Constraints Analysis. The Constraints Analysis expands the City's current development analysis on property. The property owner is being provided the option of submitting the Constraints Analysis prior to submittal of the project application and environmental documentation or submitting it with the environmental documentation. The Constraints Analysis is an analysis in addition to that required by CEQA.	A site assessment was undertaken to identify potential site constraints including geologic hazards, flood hazards, cultural resources, biological resources, and building condition. The new Main Building Complex was sited on the basis of the site assessment.	None necessary
LU Policy 10A: Urban Growth Boundary. An Urban Growth Boundary is established as shown on LU Map 1. Land use designations outside the Urban Growth Boundary have been established for long-term planning purposes. For the 20-year duration of the Urban Growth Boundary, development outside the Urban Growth Boundary shall be limited to nonurban uses such as agricultural, conservation, parkland, and open space uses except as provided herein. The City, its departments, boards, commissions, officers and employees, shall not grant, or approve any general plan amendment, rezoning, or zoning ordinance amendment, specific plans, master plan, precise development plan, tentative or final subdivision map, conditional use permit, building permit or any other discretionary or ministerial land use or development approval or entitlement for urban land uses outside of the Urban Growth Boundary except as provided in this policy.	The Indian Valley campus is within the Urban Growth Boundary.	None necessary

Note: Policies listed in this table are those that relate specifically to College of Marin, the land use designations of the Novato General Plan, or large-scale land use, environmental, or sustainability issues. The Marin Community College District is constitutionally exempt from local land use regulations when using District property in furtherance of the District's educational purposes. However, this Draft EIR evaluates the project's consistency with local land use regulations and policies for the purposes of CEQA compliance and also because it is the District's goal that local land use controls be acknowledged and adhered to as much as feasible.
Source: City of Novato, *Novato General Plan*, 1996.

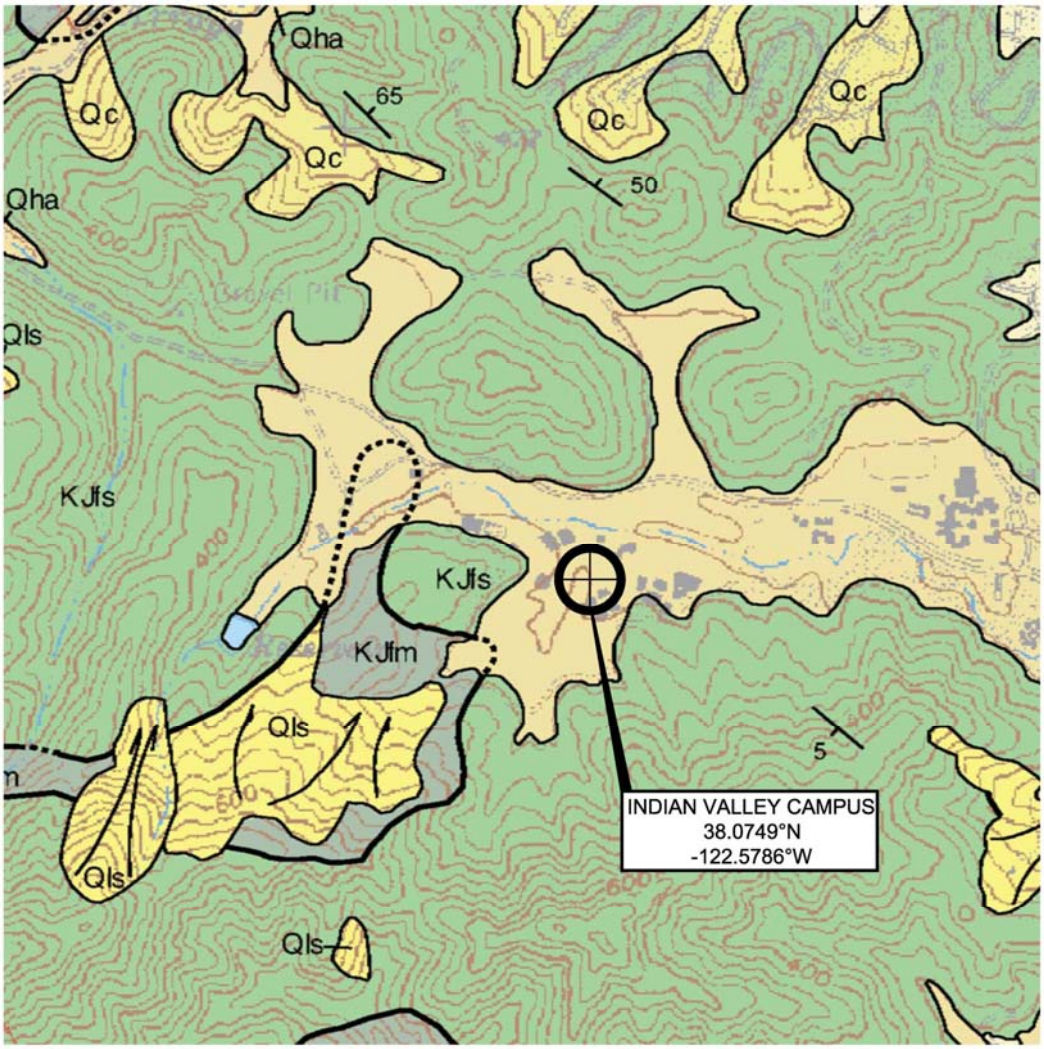
APPENDIX C GEOLOGICAL BACKGROUND DATA

Appendix C:

Table C-1
Modified Mercalli Intensity (MMI) Index Scale (Abridged)

Intensity	Description
I	People do not feel any Earth movement.
II	A few people might notice movement if they are at rest and/or on the upper floors of tall buildings.
III	Many people indoors feel movement. Hanging objects swing back and forth. People outdoors might not realize that an earthquake is occurring.
IV	Most people indoors feel movement. Hanging objects swing. Dishes, windows, and doors rattle. The earthquake feels like a heavy truck hitting the walls. A few people outdoors may feel movement. Parked cars rock.
V	Almost everyone feels movement. Sleeping people are awakened. Doors swing open or close. Dishes are broken. Pictures on the wall move. Small objects move or are turned over. Trees might shake. Liquids might spill out of open containers.
VI	Everyone feels movement. People have trouble walking. Objects fall from shelves. Pictures fall off walls. Furniture moves. Plaster in walls might crack. Trees and bushes shake. Damage is slight in poorly built buildings. No structural damage.
VII	People have difficulty standing. Drivers feel their cars shaking. Some furniture breaks. Loose bricks fall from buildings. Damage is slight to moderate in well-built buildings; considerable in poorly built buildings.
VIII	Drivers have trouble steering. Houses that are not bolted down might shift on their foundations. Tall structures such as towers and chimneys might twist and fall. Well-built buildings suffer slight damage. Poorly built structures suffer severe damage. Tree branches break. Hillsides might crack if the ground is wet. Water levels in wells might change.
IX	Well-built buildings suffer considerable damage. Houses that are not bolted down move off their foundations. Some underground pipes are broken. The ground cracks. Reservoirs suffer serious damage.
X	Most buildings and their foundations are destroyed. Some bridges are destroyed. Dams are seriously damaged. Large landslides occur. Water is thrown on the banks of canals, rivers, lakes. The ground cracks in large areas. Railroad tracks are bent slightly.
XI	Most buildings collapse. Some bridges are destroyed. Large cracks appear in the ground. Underground pipelines are destroyed. Railroad tracks are badly bent.
XII	Almost everything is destroyed. Objects are thrown into the air. The ground moves in waves or ripples. Large amounts of rock may move.

Source: Federal Emergency Management Agency (FEMA), 1992, abridged from Wood and Neumann, 1931.



SOURCE: Geologic Map of the Novato 7.5' Quadrangle, Marin and Sonoma Counties, California: A Digital Database, Version 1.0 by Salem R. Rice, Theodore C. Smith, Rudolph G. Strand, David L.Wagner, Carolyn E. Randolph-Loar, Robert C. Witter and Kevin B. Clahan. Fugro West, Inc., 2005

LEGEND:

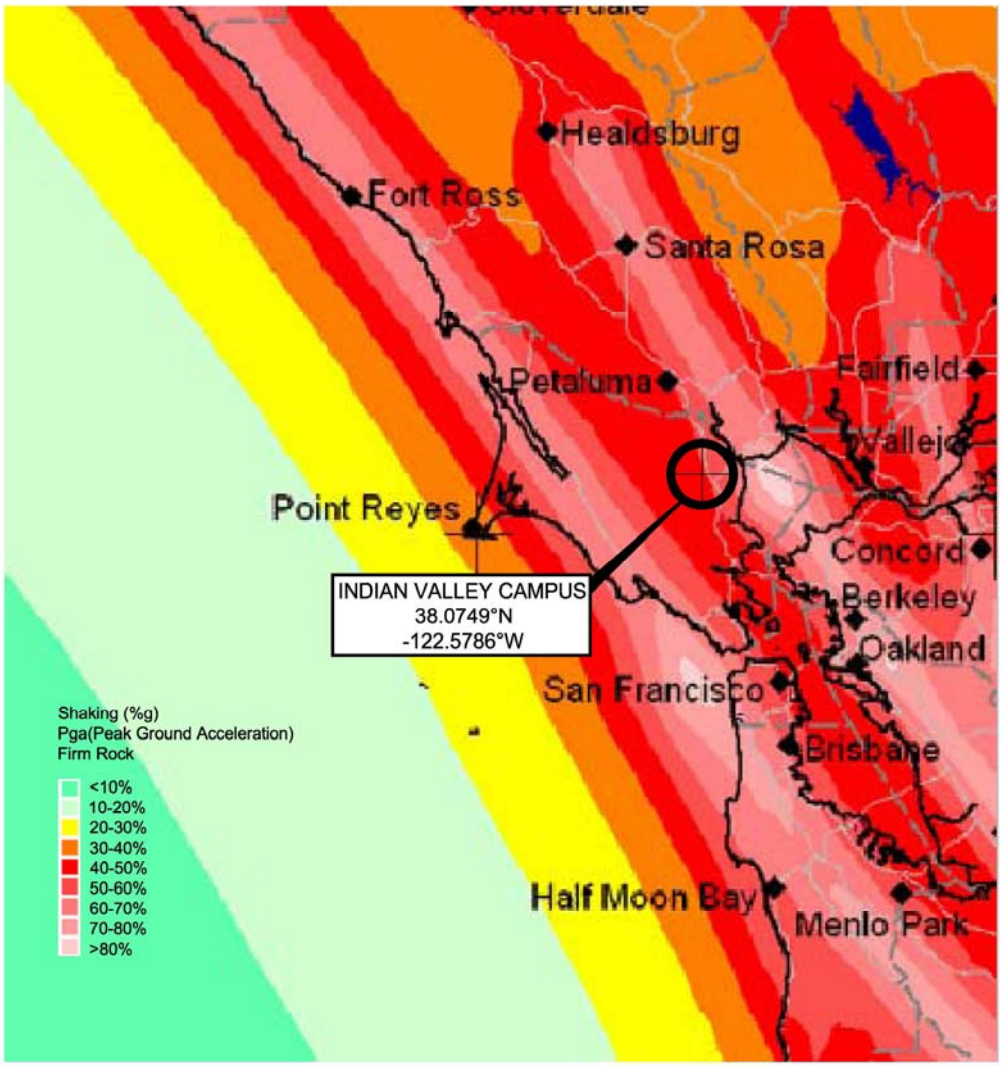
- Qc — Colluvium. Unconsolidated and unsorted soil and weathered rock fragments accumulated on or at the base of slopes.
- Qha — Holocene alluvium, undivided- Alluvium deposited on fans, terraces, or in basins. Gravel, sand, and silt that are poorly to moderately sorted.
- Qpf — Latest Pleistocene (<~30,000) alluvial fan deposits. Similar to Holocene fans (Qhf), but they are more dissected.
- Qls — Landslides. Includes debris flow and block slump landslides. Arrows show the direction of movement.
- KJfs — Franciscan Complex sandstone and shale- Thick bedded, arkosic sandstone ar interbedded shale. Arkose is composed of coarse, fairly well sorted quartz and feldspar grains with minor fine-grained matrix.
- KJfm — Franciscan Complex melange- tectonic mixture of masses of resistant rock types including sandstone, altered mafic volcanic rock (greenstone), chert, serpentinite, and exotic metamorphic rocks embedded in a sheared, shaley matrix. Blocks within the melange large enough to be shown on the map are: ss, sandstone and shale; ch, chert; mv, metamorphosed basaltic rocks; gs, greenstone.

NORTH

0 1000 2000

FEET

Figure C-1
REGIONAL GEOLOGIC MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California



SOURCE: Fugro West, Inc., 2005
This Probabilistic Seismic Hazards Map is based on http://www.consrv.ca.gov/cgs/rghm/pshamap/pshamap.asp

NORTH

Figure C-2
PROBABILISTIC SEISMIC HAZARD MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California

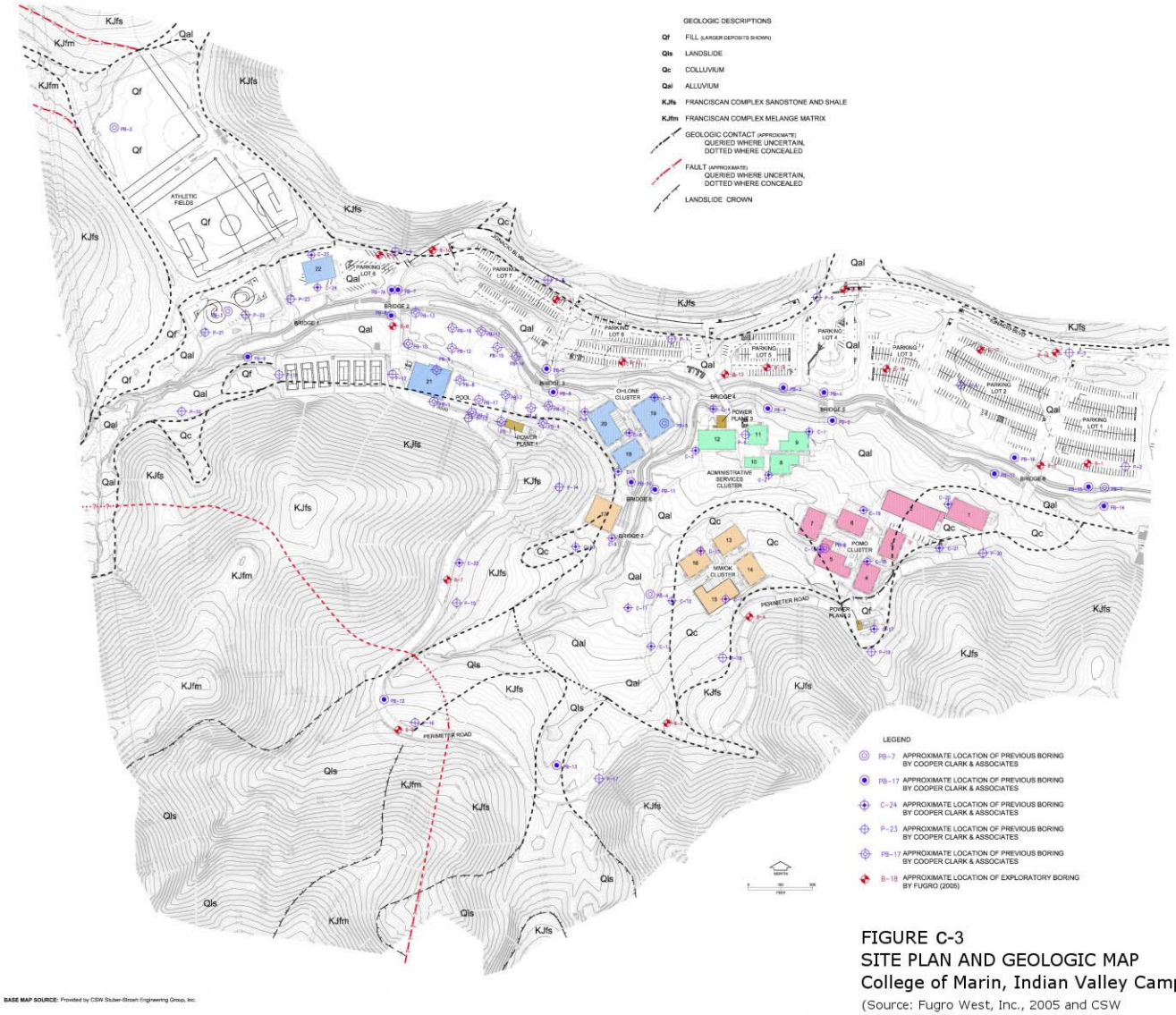


FIGURE C-3
SITE PLAN AND GEOLOGIC MAP
College of Marin, Indian Valley Campus
(Source: Fugro West, Inc., 2005 and CSW Struber-Stoeh Engineering Group, Inc.)

APPENDIX D LEED CHECKLIST

LEED-NC Version 2.2 Registered Project Checklist
<< enter project name >>
<< enter city, state, other details >>

Yes	?	No	Sustainable Sites		14 Points	Comments	Leader	Team
Y			Prereq 1	Construction Activity Pollution Prevention	Required			
			Credit 1	Site Selection	1			
			Credit 2	Development Density & Community Connectivity	1			
			Credit 3	Brownfield Redevelopment	1			
			Credit 4.1	Alternative Transportation, Public Transportation Access	1			
			Credit 4.2	Alternative Transportation, Bicycle Storage & Changing Rooms	1			
			Credit 4.3	Alternative Transportation, Low-Emitting and Fuel-Efficient Vehicles	1			
			Credit 4.4	Alternative Transportation, Parking Capacity	1			
			Credit 5.1	Site Development, Protect of Restore Habitat	1			
			Credit 5.2	Site Development, Maximize Open Space	1			
			Credit 6.1	Stormwater Design, Quantity Control	1			
			Credit 6.2	Stormwater Design, Quality Control	1			
			Credit 7.1	Heat Island Effect, Non-Roof	1			
			Credit 7.2	Heat Island Effect, Roof	1			
			Credit 8	Light Pollution Reduction	1			

Yes	?	No	Water Efficiency		5 Points	Comments	Leader	Team
			Credit 1.1	Water Efficient Landscaping, Reduce by 50%	1			
			Credit 1.2	Water Efficient Landscaping, No Potable Use or No Irrigation	1			
			Credit 2	Innovative Wastewater Technologies	1			
			Credit 3.1	Water Use Reduction, 20% Reduction	1			
			Credit 3.2	Water Use Reduction, 30% Reduction	1			

Yes	?	No	Energy & Atmosphere		17 Points	Comments	Leader	Team
Y			Prereq 1	Fundamental Commissioning of the Building Energy Systems	Required			
Y			Prereq 2	Minimum Energy Performance	Required			
Y			Prereq 3	Fundamental Refrigerant Management	Required			
			Credit 1	Optimize Energy Performance	1 to 10			
			Credit 2	On-Site Renewable Energy	1 to 3			
			Credit 3	Enhanced Commissioning	1			
			Credit 4	Enhanced Refrigerant Management	1			
			Credit 5	Measurement & Verification	1			
			Credit 6	Green Power	1			
					continued...			

Yes	?	No	Materials & Resources		13 Points	Comments	Leader	Team
Y			Prereq 1	Storage & Collection of Recyclables	Required			
			Credit 1.1	Building Reuse, Maintain 75% of Existing Walls, Floors & Roof	1			
			Credit 1.2	Building Reuse, Maintain 100% of Existing Walls, Floors & Roof	1			
			Credit 1.3	Building Reuse, Maintain 50% of Interior Non-Structural Elements	1			
			Credit 2.1	Construction Waste Management, Divert 50% from Disposal	1			
			Credit 2.2	Construction Waste Management, Divert 75% from Disposal	1			
			Credit 3.1	Materials Reuse, 5%	1			
			Credit 3.2	Materials Reuse, 10%	1			
			Credit 4.1	Recycled Content, 10% (post-consumer + ½ pre-consumer)	1			
			Credit 4.2	Recycled Content, 20% (post-consumer + ½ pre-consumer)	1			
			Credit 5.1	Regional Materials, 10% Extracted, Processed & Manufactured Regionally	1			
			Credit 5.2	Regional Materials, 20% Extracted, Processed & Manufactured Regionally	1			
			Credit 6	Rapidly Renewable Materials	1			
			Credit 7	Certified Wood	1			

Yes	?	No	Indoor Environmental Quality		15 Points	Comments	Leader	Team
Y			Prereq 1	Minimum IAQ Performance	Required			
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	Required			
			Credit 1	Outdoor Air Delivery Monitoring	1			
			Credit 2	Increased Ventilation	1			
			Credit 3.1	Construction IAQ Management Plan, During Construction	1			
			Credit 3.2	Construction IAQ Management Plan, Before Occupancy	1			
			Credit 4.1	Low-Emitting Materials, Adhesives & Sealants	1			
			Credit 4.2	Low-Emitting Materials, Paints & Coatings	1			
			Credit 4.3	Low-Emitting Materials, Carpet Systems	1			
			Credit 4.4	Low-Emitting Materials, Composite Wood & Agrifiber Products	1			
			Credit 5	Indoor Chemical & Pollutant Source Control	1			
			Credit 6.1	Controllability of Systems, Lighting	1			
			Credit 6.2	Controllability of Systems, Thermal Comfort	1			
			Credit 7.1	Thermal Comfort, Design	1			
			Credit 7.2	Thermal Comfort, Verification	1			
			Credit 8.1	Daylight & Views, Daylight 75% of Spaces	1			
			Credit 8.2	Daylight & Views, Views for 90% of Spaces	1			

Yes	?	No	Innovation & Design Process		5 Points	Comments	Leader	Team
			Credit 1.1	Innovation in Design: Provide Specific Title	1			
			Credit 1.2	Innovation in Design: Provide Specific Title	1			
			Credit 1.3	Innovation in Design: Provide Specific Title	1			
			Credit 1.4	Innovation in Design: Provide Specific Title	1			
			Credit 2	LEED® Accredited Professional	1			

Yes	?	No	Project Totals (pre-certification estimates)	69 Points

Certified 26-32 points Silver 33-38 points Gold 39-51 points Platinum 52-69 points

Page: 1
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URBEMIS 2002 For Windows 8.7.0

File Name: <Not Saved>
Project Name: Indian Valley
Project Location: San Francisco Bay Area
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

SUMMARY REPORT
(Pounds/Day - Summer)

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10
TOTALS (lbs/day,unmitigated)	4.61	3.14	31.63	0.02	3.75

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URBEMIS 2002 For Windows 8.7.0

File Name: <Not Saved>
Project Name: Indian Valley
Project Location: San Francisco Bay Area
On-Road Motor Vehicle Emissions Based on EMFAC2002 version 2.2

DETAIL REPORT
(Pounds/Day - Summer)

UNMITIGATED OPERATIONAL EMISSIONS

	ROG	NOx	CO	SO2	PM10
Junior college (2 yrs)	4.61	3.14	31.63	0.02	3.75
TOTAL EMISSIONS (lbs/day)	4.61	3.14	31.63	0.02	3.75

Includes correction for passby trips.
Does not include double counting adjustment for internal trips.

OPERATIONAL (Vehicle) EMISSION ESTIMATES

Analysis Year: 2010 Temperature (F): 85 Season: Summer

EMFAC Version: EMFAC2002 (9/2002)

Summary of Land Uses:

No. Unit Type	Total Units	Acreage	Trip Rate	Trips
Junior college (2 yrs)	192.00		2.50 trips/students	480.00

Sum of Total Trips 480.00

Total Vehicle Miles Traveled 2,467.08

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.70	1.10	98.70	0.20
Light Truck < 3,750 lbs	15.20	2.00	96.00	2.00
Light Truck 3,751- 5,750	16.20	1.20	98.10	0.70
Med Truck 5,751- 8,500	7.30	1.40	95.90	2.70
Lite-Heavy 8,501-10,000	1.10	0.00	81.80	18.20

Lite-Heavy	10,001-14,000	0.30	0.00	66.70	33.30
Med-Heavy	14,001-33,000	1.00	0.00	20.00	80.00
Heavy-Heavy	33,001-60,000	0.90	0.00	11.10	88.90
Line Haul > 60,000	lbs	0.00	0.00	0.00	100.00
Urban Bus		0.20	0.00	50.00	50.00
Motorcycle		1.60	68.80	31.20	0.00
School Bus		0.10	0.00	0.00	100.00
Motor Home		1.40	7.10	85.70	7.20

Travel Conditions

	Residential				
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work Customer
Urban Trip Length (miles)	11.8	4.6	6.1	11.8	5.0 5.0
Rural Trip Length (miles)	15.0	10.0	10.0	15.0	10.0 10.0
Trip Speeds (mph)	30.0	30.0	30.0	30.0	30.0 30.0
% of Trips - Residential	27.3	21.2	51.5		

% of Trips - Commercial (by land use)
Junior college (2 yrs) 5.0 2.5 92.5

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Changes made to the default values for Land Use Trip Percentages

Changes made to the default values for Operations

The operational emission year changed from 2005 to 2010.

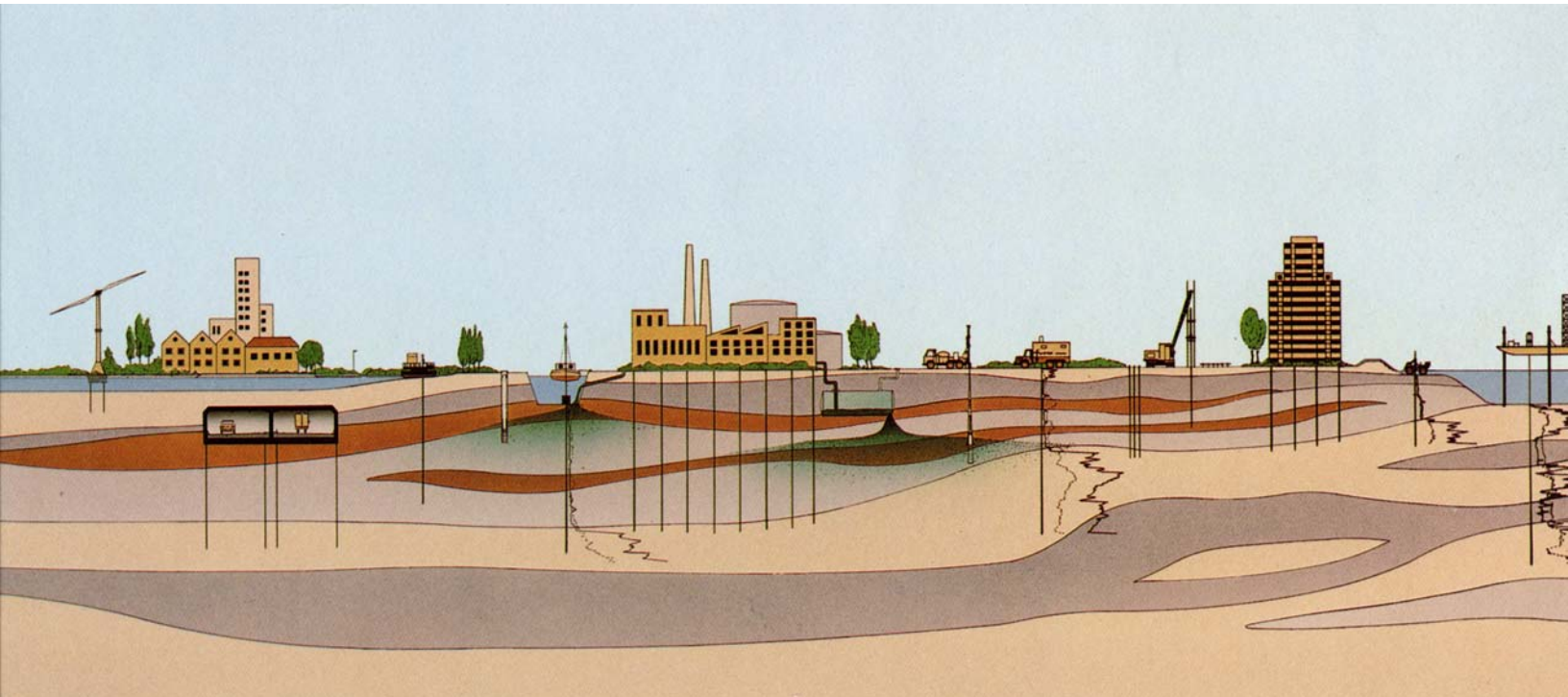
FUGRO WEST, INC.

BASELINE GEOLOGIC HAZARDS STUDY
COLLEGE OF MARIN
INDIAN VALLEY CAMPUS
NOVATO, MARIN COUNTY, CALIFORNIA

Prepared for:
COLLEGE OF MARIN

DECEMBER 2005

Project No. 1715.001



FUGRO WEST, INC.

1000 Broadway, Suite 200
Oakland, California 94607
Tel: (510) 268-0461
Fax: (510) 268-0137

December 15, 2005
Project No. 1715.001

Marin Community College District
c/o Swinerton Management
P.O. Box 144003
835 College Avenue, Building MS-3
Kentfield, California 94904-4003

Attention: Ms. Suzanne Brown

Subject: Baseline Geologic Hazards Study
College of Marin Indian Valley Campus, Novato, California

Dear Ms. Brown:

As requested, Fugro West, Inc., has performed a baseline geologic hazards study for the Indian Valley Campus of the College of Marin in Novato, California. This report provides information regarding our limited geotechnical field exploration and laboratory testing program and our general assessment of geologic hazards for the Indian Valley Campus. This baseline geologic hazard assessment report will need to be updated for each specific area of focus prior to submittal to the Division of the State Architect (DSA).

We trust that this report provides the information that you require at this time. If you have questions or comments concerning the contents of this report, please do not hesitate to call.

Sincerely,

FUGRO WEST, INC.

Mark Caruso

Mark R. Caruso, P.G., C.E.G.
Associate Engineering Geologist

Corey T. Dare

Corey T. Dare, P.E., G.E.
Principal Engineer

JCH/CTD/MRC:rp

Copies Submitted: (7) Addressee

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1.0 INTRODUCTION

This report presents the results of the limited geotechnical study and baseline geologic hazard study conducted by Fugro West, Inc., (Fugro) for the College of Marin, Indian Valley Campus, in Novato, California.

The baseline geologic hazard study was performed based on requirements contained in the document titled, *California Geological Survey – Note 48, Checklist for the Review of Engineering Geology and Seismology Reports for California Public Schools, Hospitals, and Essential Services Buildings.* This document is used by the California Geological Survey (CGS) in their evaluation of geologic hazard reports which are prepared to conform with the requirements of the California Department of General Services, Division of the State Architect (DSA), which are presented in their Interpretation of Regulations Document titled, *Geologic Hazard Report Requirements*, IR A-4, dated July 21, 2005. The latest version of CGS *Note 48* is dated January 1, 2004, with supporting documentation provided by the CGS dated July 1, 2005.

1.1 SITE AND PROJECT DESCRIPTION

The project site is the College of Marin's Indian Valley Campus, located at 1800 Ignacio Boulevard, southwest of the City of Novato in Marin County, California, as shown on the *Site Vicinity Map*, Plate 1. The College property consists of a 330-acre portion of the former Pacheco Ranch. The campus was constructed during the mid-1970s adjacent to the deeply incised and meandering Ignacio Creek, formerly called the North Branch of Arroyo San Jose Creek, which flows west to east through the alluvial filled valley that is centrally located within the property. An ephemeral channel, fed from the upslope watershed to the southwest, has deeply incised the lowland area within the campus, and merges with Ignacio Creek near the central portion of the campus.

Hill slopes rise generally toward the north and south from the campus as shown on the *Local Topographic Map*, Plate 2. The approximate geographic center of the campus is located at latitude 38.0749°N and longitude –122.5786°W, as shown on Plate 2. The campus area, as presented on the *Site Plan and Geologic Map*, Plate 3, encompasses a relatively small portion of the property, and ranges from between approximately Elevation 150 feet and 200 feet, with the hill slopes to the north and south within the property reaching a maximum of approximately Elevation 450 feet and Elevation 730 feet, respectively. Lowland areas adjacent to the creek that support the current campus development consisted of gently sloping grassland terrain prior to development, while the relatively dense riparian vegetation along the watercourses, and the dense vegetation along the adjacent slopes, remain relatively undisturbed by campus development. A residence, barn and associated improvements formerly located along the north side of the creek at the western edge of the property, were demolished as part of the campus development.

The Indian Valley Campus was generally constructed in groups of buildings, known as "clusters", as shown on the *Site Plan and Geologic Map*, Plate 3. These clusters have been named: Pomo, Administrative Services, Miwok and Ohlone. A perimeter roadway that traverses along the base of the slope to the south of the campus provides access to the Pomo and Miwok Clusters, and to the lower elevation portion of the property. Three power plants, a corporation yard and police facility are spread throughout the improved area. Athletic fields, tennis courts and a swim center are located at the western portion of the campus. Parking areas, Lots 1 through 8, as shown on Plate 3, are located along the south side of Ignacio Boulevard and to the immediate north of Ignacio Creek. Four vehicular access bridges and four pedestrian only bridges, provide access from the parking areas to the campus buildings, and access across the ephemeral channel passing through the campus from the southwest. A number of frequently utilized trailheads leading to open-space areas to the north, west and southwest of the campus property are accessible to the public from the western end of the campus development.

Numerous retaining walls line the base of the cut slope around the perimeter roadway, and are present to support cuts and fills required to develop level pads for various structures. These retaining walls are constructed from 12-inch-diameter, pressure-treated lumber columns that are slightly inclined into the slope to be parallel with the face of the cut, and pressure treated wood lagging spans between the near vertical columns. Gravel drainage is provided behind the lagging along some sections of wall, while native materials are present behind the lagging in other areas. Concrete drainage ditches are present above the retaining walls in some locations. Distress to these walls was observed in a number of areas, and some sections of wall have been replaced with new wall sections consisting of drilled, cast-in-place concrete piers supporting solder beams (steel H-beams) with pressure-treated wood lagging spanning between them.

The building clusters and other structures and facilities as shown on Plate 3, can be briefly summarized as the following:

1.1.1 Pomo Cluster

The Pomo Cluster is the largest and easternmost cluster on the campus and is located primarily on an alluvial apron at the base of a swale and hillside between Ignacio Creek to the north and the perimeter road to the south. The cluster consists of seven structures, Buildings 1 through 7, with various patios, walkways and retaining walls. Buildings in this cluster generally include a machine shop, metal shop, auto body shop and technology lab, a medical lab, general classrooms and offices. Power Plant 2, located south of the cluster, across the perimeter roadway, was constructed on a fill at the base of the swale.

1.1.2 Administrative Services Cluster

The Administrative Services Cluster, Buildings 8 through 12, is located near the center of the campus, immediately to the south of the main campus entrance at Parking Lot 4. Bridge 5, a pedestrian only bridge, provides access to the cluster from Parking Lot 4. Buildings in this cluster generally include student and administrative services, a bookstore and child care center. Power Plant 3 is located in the area of the cluster at the edge of the creek bank. The western

edge of Building 12, the Child Care Center, is located very close to the edge of the deeply incised, meandering creek that passes by the building with a local northerly trend. A 60-foot-long, 18-foot-high, and 15-foot-wide gabion basket erosion control/retaining wall structure has been constructed along the creek to mitigate further bank erosion that could eventually impact the perimeter area around Building 12, and the integrity of its foundation.

1.1.3 Miwok Cluster

The Miwok Cluster consists of four, closely spaced structures, Buildings 13 through 16, plus an additional structure, Building 17. The main cluster is located to the south of the Administrative Services Cluster and west of the Pomo Cluster at the base of a topographic nose within the uphill portion of the campus, next to the perimeter road. Building 17 is located approximately 250 feet to the northwest and across the ephemeral creek from the main cluster. Buildings within the main cluster generally include facilities for art labs and gallery, a student lounge and theatre, classrooms for foreign languages and general studies. Building 17 houses the library and foreign language studies and is as close as 10 feet to the adjacent creek bank. A landslide that occurred immediately southeast of Building 17, along the bank of the deeply incised ephemeral creek, has been repaired by installation of a 30-foot-long, 18-foot-high, and 15-foot-wide gabion basket erosion control/retaining wall structure, similar to what was constructed near Building 12.

1.1.4 Ohlone Cluster

The Ohlone Cluster consists of five main structures, Buildings 18 through 22, along with the swimming pool facility, considered as Building 23. Buildings 18, 19 and 20 comprise the main cluster within the interior of the campus, with the other buildings and facilities spread out within the western portion of the campus. The main cluster, Buildings 18 through 20, generally house the court reporting, computer laboratory, office occupations and general classrooms. These buildings are located immediately southwest of the confluence of the ephemeral channel with Ignacio Creek. Buildings 21 and 23, located a few hundred feet west of the main cluster, comprise the swimming pool and associated locker room facilities. Power Plant 1 is located at the east of the swim center facility. The Corporation Yard and Campus Police offices, located northwest of the pool facility, and along the north side of Ignacio Creek, are considered Building 22.

1.1.5 Parking Lots and Bridges

The campus contains eight main parking lots. With exception for Parking Lot 8, all of the parking lots are located to the south, and down slope of, Ignacio Boulevard and immediately north of Ignacio Creek. Parking Lot 8 is located on the west end of Ignacio Boulevard, in front of the campus police/corporation yard facilities. Wood retaining walls of various heights, constructed as discussed under Section 1.1, are present within some of the lots. Asphalt concrete pavements within these lots display various degrees of distress, with the pavement sections consisting of asphalt concrete over what some have reported to be treated subgrade soil. An assessment of the pavements within the campus was completed independently of this geologic hazard study.

Access from the parking lots across Ignacio Creek to the campus, and across the ephemeral channel within the campus, is provided by eight bridges and two paved culverts. Four of the bridges are for vehicular traffic between the parking lots and the main campus across Ignacio Creek. Two additional bridges and two culverts are limited to pedestrian traffic across Ignacio Creek. Two pedestrian bridges cross the northeast flowing ephemeral creek between Building 17 and the rest of the Miwok Cluster located to the southeast.

1.1.6 Athletic Fields and Trail Access

Athletic fields and associated improvements are present within the northwest trending valley that ascends from the area containing the Corporation Yard, Campus Police offices and Parking Lot 8. Grading took place within this alluvial valley to develop the relatively flat athletic field surfaces.

An extensive system of fire roads and trails can be accessed from the Athletic Field area. These well-utilized roads and trails trend north, west and southwest from this area.

1.2 PURPOSE AND SCOPE OF SERVICES

The purpose of our geologic hazard study, limited subsurface exploration and laboratory-testing program was to obtain information on surface and subsurface conditions to aid in the evaluation of the geologic hazard, geotechnical and seismology aspects of the project. The scope of our services performed included, but was not limited to, the following items:

- Review of existing geologic, geotechnical and construction reports provided by College of Marin, review of available published and unpublished geologic maps and reports, and review of stereo-paired aerial photographs of the site and vicinity;
- Performance of a geologic reconnaissance of the college property and preparation of a reconnaissance level geologic map for the developed portion of the campus;
- Conducting of a limited geotechnical subsurface exploration and laboratory testing program to confirm and supplement the available information on subsurface conditions along Ignacio Creek;
- Develop seismic design parameters based on the 2001 California Building Code;
- Perform a preliminary Probabilistic Seismic Hazard Assessment (PSHA) based on the 2002 USGS/CGS probabilistic seismic hazard assessment model for the design basis earthquake, 10 percent probability of exceedance in 50 years (475-year return period) event that can be used by the structural engineer for preliminary structural assessment purposes; and
- Preparing this baseline geologic hazards study and preliminary geotechnical assessment report presenting results from our geotechnical field exploration, laboratory testing program, geologic hazard study, seismic analysis, discussion of geotechnical issues and geotechnical recommendations.

2.0 DATA REVIEW, EXPLORATION AND LABORATORY TESTING

The limited geotechnical exploration and laboratory-testing program described herein was developed to provide general characterization of the subsurface materials.

2.1 REVIEW OF EXISTING DATA

Prior to conducting our geotechnical field exploration and laboratory testing program, Fugro reviewed relevant, available information relating to geotechnical, geologic, and seismic data, as well as results of previous explorations performed within the campus property, including the following reports:

- "Report, Initial Studies of Flood Control Geology and Soil Engineering, Proposed North Campus, College of Marin," dated August 22, 1967, (first geotechnical study of the College site) prepared by Cooper-Clark & Associates (CCA);
- "Report, Site and Foundation Investigation, Initial Facilities, Indian Valley Colleges, Novato, California," dated March 14, 1973, (geotechnical study for initial structures at the campus) prepared by CCA;
- "Report, Site and Foundation Investigation, Proposed Physical Education Facilities, Phase III of Indian Valley Colleges, Novato, California," dated May 20, 1975, prepared by CCA;
- Reports of earthwork inspection and testing for site construction, dated February 5, 1976, February 17, 1976, June 22, 1976, November 1, 1976, February 23, 1978, and May 25, 1978, prepared by CCA;
- "Foundation Investigation – Gabion Retaining Walls, Indian Valley Colleges, Novato, California," dated December 6, 1988, prepared by Harding Lawson Associates (HLA).

Exploration locations presented in previous reports within the campus property are plotted on the *Site Plan and Geologic Map*, Plate 3. Data from previous explorations were used in our general analysis of subsurface conditions and site geology.

2.2 FIELD EXPLORATION

2.2.1 General

One of the California Geological Survey's (CGS's) requirements for a geologic hazard study and associated geotechnical assessment, is that there be one subsurface exploration point (e.g., borehole, cone penetrometer sounding, etc.) for every 5,000 square feet of building footprint area, with a minimum of two exploration points per building. Previously completed exploration points can be used to partially satisfy this requirement if the exploration method utilized (drilling and sampling techniques) is acceptable by today's standards. The subsurface explorations completed by previous investigators during the 1960s and 1970s for the campus structures provide a wealth of information concerning properties of the subsurface materials, but

the borings were not performed using drilling and sampling methods that would be acceptable by today's standards.

Should detailed assessment of individual structures, or clusters of buildings, within the Indian Valley Campus be required, a subsurface exploration program that satisfies CGS's criteria for minimum number of exploration points would be developed.

2.2.1 Current and Previous Studies

Fugro conducted seventeen exploratory borings for a pavement condition study, and geotechnical assessment of materials adjacent to Ignacio Creek, as a part of the current geotechnical study for the project. The field exploration was conducted between October 17 and 20, 2005. The exploratory borings, designated B-1 through B-18, were drilled with a truck-mounted drill rig. Boring B-3 could not be completed as planned due to the presence of utilities. Geotechnical assessment along Ignacio Creek included Borings B-2, B-8, and B-13 that were drilled to depths of 45, 45, and 29 feet, respectively, using hollow stem augers. Borings B-2 and B-8 were completed as 2-inch-diameter open-standpipe piezometers for monitoring of the groundwater elevation. All other borings were performed for the pavement study, and extended to a depth of 5 feet below the existing ground surface using solid flight augers. Results of our pavement assessment are presented in a separate report. The locations of the exploratory borings are shown on the *Site Plan and Geologic Map*, Plate 3.

Ten previous borings were performed by CCA in 1967. These borings were located in the valley areas of the campus before any development had taken place, and extended to depths of between 10 and 38 feet. In 1972, CCA performed 65 borings extending to depths of between 5 and 40 feet. The 1972 borings were scattered across the site and were intended for design of all initial structures, roadways and parking lots at the campus. Seventeen additional borings were performed by CCA in 1975 near the existing swimming pool and locker room facility that extended to depths of between 15 and 41 feet. Since these borings were performed, moderate grading and construction has occurred at the site. A summary of subsurface conditions encountered in the current and previous borings, as applicable, is presented in Section 4.0. The approximate locations of previous borings are shown on the *Site Plan and Geologic Map*, Plate 3.

Logs of the recent exploratory borings and details regarding the field exploration are included in Appendix A. The subsurface conditions encountered in the exploratory borings are summarized in Section 4.2.

2.3 LABORATORY TESTING

Geotechnical laboratory testing was conducted on the soil samples collected from the recently completed borings at Fugro's soil mechanics laboratory in Oakland, California. The geotechnical laboratory test program included: classification tests (fines content, Atterberg limits, water content, unit weight) and R-Value testing for the pavement study. The results of the laboratory tests are presented on boring logs (Appendix A) at the appropriate sample depths, and in Appendix B, *Laboratory Test Results*.

2.4 CORROSION TESTING

Corrosion testing was also conducted on four selected samples at Cerco Analytical, Inc., in Pleasanton, California. Four samples were retrieved and tested from Borings B-2, B-5, B-9 and B-13. The depths at which the corrosion tests were conducted are shown on the boring logs provided in Appendix A. The corrosion test results are discussed below.

2.4.1 Tests for Buried Concrete

Soluble sulfate concentration, chloride ion concentration, and pH tests were performed on the four samples. These tests provide an indication of the corrosion potential of the soil environment on buried concrete structures. The table below presents the depth at which the samples were collected and the laboratory test results.

Test No.	Sample	Sulfate (mg/kg)	Chloride (mg/kg)	pH
1	B-2 @ 3-3.5 ft	ND	29	6.6
2	B-5 @ 2.5-3 ft	ND	100	5.6
3	B-9 @ 2.5-3 ft	ND	16	7.1
4	B-13 @ 3-3.5 ft	ND	ND	6.6

N.D. = None Detected

Based on guidelines presented by the Portland Cement Association (PCA) in their publication, *Design and Control of Concrete Mixtures* (13th Edition, 1990) and on the *1997 Uniform Building Code* (UBC), cement used to construct below grade concrete structures will be subjected to a moderate degree of sulfate exposure if the measured sulfate levels exceeds 150 mg/kg. Based on CERCO Analytical Inc.'s (CERCO) evaluation, the detected sulfate ion concentrations are non-detectable (ND). The sulfate concentration from all samples was determined to be insufficient to damage reinforced concrete structures and cement mortar-coated steel at these locations.

Based on CERCO's evaluation, chloride ion concentrations range from non-detectable to 100 mg/kg. Because these concentrations are below 300 mg/kg, they were determined to be insufficient to corrode the steel embedded in a concrete mortar coating.

Based on CERCO's evaluation, the pH of the soils tested ranges from 6.6 to 7.1, which does not present corrosion problems for buried iron, steel, mortar-coated steel and reinforced concrete structures.

For specific long-term, location-specific corrosion control design recommendations, we recommend that a corrosion engineer evaluate the corrosion potential of the soil environment on buried concrete structures and steel pipe coated with cement-mortar.

2.4.2 Tests for Buried Ferrous Metals

In addition to the pH tests described above, the resistivity and redox tests were performed on the same soil samples as discussed above. These tests may be evaluated together to provide an indication of the corrosion potential of the soil environment on buried ferrous metals such as steel or cast-iron pipes. The results of these tests are presented in the table below.

Test No.	Sample	Resistivity (ohm-cm)	Redox potential (mV)
1	B-2 @ 3-3.5 ft	3,600	420
2	B-5 @ 2.5-3 ft	2,900	480
3	B-9 @ 2.5-3 ft	4,500	480
4	B-13 @ 3-3.5 ft	6,600	500

Based on the resistivity measurement, CERCO classified all samples as "moderately corrosive". All buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron should be properly protected against corrosion depending upon the critical nature of the structure. All buried metallic pressure piping such as ductile iron pipeline should be protected against corrosion as well.

The measured soil reduction-oxidation (redox) potentials range from 420 to 500 mV. CERCO classified all samples as considered to be indicative of aerobic soil conditions. Appendix C presents the complete results of corrosion tests and recommendations provided by the corrosion engineer from CERCO.

3.0 GEOLOGIC SETTING

3.1 REGIONAL GEOLOGIC SETTING

The Indian Valley Campus is located within the Coast Ranges Geomorphic Province in Northern California. The general geology of the site vicinity is presented on the *Regional Geologic Map*, Plate 4. The Coast Ranges province is characterized by a series of tectonically driven events that includes development of generally northwest-trending faults and folds, erosion and deposition. The Bay Area experienced uplift and faulting in several episodes during late Tertiary time (about 25 to 2 million years ago) producing a series of northwest-trending valleys and mountain ranges, including the San Francisco Peninsula, the Diablo Range, and the intervening San Francisco Bay. During this time, the process of erosion was cutting down the relative high areas and the eroded materials were being deposited in the low-lying areas as sand, gravel and clay alluvium. The existing landscape we see today is the result of these processes taking place over millions of years. These same geological processes of bedrock erosion in the upland areas and deposition of alluvium within lowland areas are continuing today.

3.2 TECTONIC ENVIRONMENT AND REGIONAL GEOLOGY

During the period between approximately 140 million to about 28 million years ago, a subduction zone existed along western North America, and belts of oceanic rock were accreted to northern California along the active subduction-zone margin (Harden, 2001). The subduction zone was in the approximate position of the Coast Ranges about 100 million years ago, and fragments of the oceanic crust that collided with North America at that time are currently present in the Coast Ranges as the Franciscan Complex. The Franciscan Complex rocks form the heart of the Coast Ranges, and are found in two northwest-trending belts that are composed of a number of geologic terranes that were juxtaposed and mixed during subduction and accretion along the North American margin. These rocks originate from a variety of sources, including volcanic and sedimentary rocks formed on seamounts, deep oceanic crust, deep ocean floor sediments, and sediments deposited in trenches. Among these rocks are altered submarine basalts, radiolarian chert and minor limestone, with the most abundant rock types being mudstone and greywacke (sandstone) deposited as turbidite sequences. Metamorphic rocks found in the Franciscan include blueschist and eclogitic rocks, with serpentinite found along fault zones and within the matrix of mélange units. Contacts between these different types of rock are considered fault contacts.

The Franciscan rocks can be roughly divided into three units called the Coastal Belt, Central Belt and Eastern Belt. Marin County and the Indian Valley Campus property are located within the Central Belt of the Franciscan that is considered primarily a mélange that generally consists of blocks of submarine basalt, blueschist, chert and resistant greywacke (sandstone) present within a matrix of highly sheared weaker rock material. This rock matrix material can include shale, argillite, siltstone, serpentinite and sandstone, much of which may be sheared to the consistency of a soil (Medley 1994, 2001). The Central Belt in Marin County was estimated by Medley (1994) to be comprised of blocks of greywacke (60–70 percent), volcanic rocks (15–20 percent), serpentinite (15–20 percent), chert (5–10 percent), with the remaining blocks consisting of rare limestone and exotic metamorphic rock. The blocks may also be composed of intact siltstone and sandstone/siltstone sequences.

3.3 SEISMICITY

The Indian Valley Campus is located in the San Francisco Bay Area, which is considered one of the most seismically active regions in the United States. Significant earthquakes have occurred in the San Francisco Bay Area and are believed to be associated with crustal movements along a system of subparallel fault zones that generally trend in a northwesterly direction. The campus location is shown with respect to the locations of many of these faults on the *Regional Fault Location Map*, Plate 5, and *Regional Epicenter Map*, Plate 6. The project site is located in Seismic Zone 4, and is not located in a State Designated Fault-Rupture Hazard Zone established in accordance with the Alquist-Priolo Earthquake Fault Zoning Act.

Earthquake intensities will vary throughout the Bay Area depending upon the magnitude of earthquake, the distance of the site from the causative fault, and the type of materials

underlying the site. The site will be subjected to at least one moderate to severe earthquake that will cause strong ground shaking.

Since the early 1800s, major earthquakes have been recorded along the San Andreas fault system. Table 1 presents large magnitude (M_w>6.0) regional earthquakes that are suspected to have occurred within 100 miles of the site from 1800 to 2002, and Table 2 presents historic earthquakes (M_w>4.0) that occurred within 10 miles of the site.

Table 1. Large Magnitude (M_w>6.0) Regional Earthquakes Within 100 Miles of the Site

Epicenter Location	Date	Moment Magnitude	Distance (mi)	Distance (km)	Compass Direction to Epicenter
Mare Island	March 31, 1898	6.5	13.0	20.9	East
San Francisco	June 21, 1808	6.3	19.5	31.3	South
San Francisco	April 18, 1906	8.3	26.2	42.2	South
San Francisco Peninsula	June 1, 1838	7.0	34.2	55.0	South
Hayward	October 21, 1868	6.8	36.7	59.1	Southeast
Unavailable	May 19, 1889	6.0	37.3	60.0	East
Vacaville	April 19, 1892	6.4	38.6	62.1	Northeast
Dixon	April 21, 1892	6.2	47.0	75.7	Northeast
Fremont	November 26, 1858	6.1	54.3	87.3	Southeast
South Santa Cruz Mountains	October 8, 1865	6.5	65.1	104.7	Southeast
1984 Morgan Hill	April 24, 1984	6.1	70.9	114.1	Southeast
1911 Morgan Hill	July 1, 1911	6.5	72.8	117.1	Southeast
Loma Prieta	October 18, 1989	7.0	81.2	130.7	Southeast
Gilroy	June 20, 1897	6.2	94.8	152.6	Southeast

Table 2. Historic Earthquakes (M_w>4.0) Within 10 Miles of the Site

Epicenter Location	Date	Moment Magnitude	Distance (mi)	Distance (km)	Compass Direction to Epicenter
Novato	August 27, 1855	4.9	4.6	7.4	East

The computer program EQSEARCH, v3.00, was used to access the historical seismicity information presented in Tables 1 and 2. The site is shown with respect to the locations of historical earthquake epicenters on the *Regional Epicenter Map*, Plate 6.

Table 3 presents San Francisco Bay Area fault parameters published by the State of California Geological Survey (formerly the California Division of Mines and Geology, [CDMG]). These parameters are used to evaluate seismic hazards pertaining to San Francisco Bay Area faults. The site is not located within a Fault-Rupture Hazard Zone as established by the Alquist-Priolo Earthquake Fault Zoning Act.

Table 3. San Francisco Bay Area Fault Parameters

Fault System Generating Earthquake	Fault Length (km)[1]	Distance To Nearest Segment of Fault from Site (km)	Upper Bound Earthquake Mw_{max} [1]	Slip Rate (mm/yr)[1]
Rodgers Creek	62	11.6	7.0	9.0
Hayward (Northern)	35	12.7	6.4	9.0
San Andreas (North Coast South)	190	17.5	7.4	24.0
Point Reyes	47	26.6	7.0	0.3
West Napa	30	30.5	6.5	1.0
San Andreas (Peninsula)	85	31.9	7.1	17.0
San Gregorio (North)	110	34.0	7.2	7.0
Green Valley (South)	25	41.5	6.2	5.0
Hayward (Southern)	53	42.1	6.7	9.0
Green Valley (North)	14	42.8	6.2	5.0
Concord	17	44.0	6.2	4.0
Mount Diablo Thrust	25	52.0	6.6	2.0
Hunting Creek - Berryessa	60	53.3	7.1	6.0
Maacama - Garberville	182	56.2	7.5	9.0
Calaveras (Northern)	45	57.3	6.8	6.0
Great Valley 5	28	64.4	6.5	1.5
Great Valley 4	42	64.5	6.6	1.5
Greenville (North)	27	68.5	6.6	2.0
Monte Vista-Shannon	45	76.0	6.7	0.4
Collayomi	29	78.2	6.5	0.6
Great Valley 3	55	82.9	6.9	1.5
Greenville (South)	24	90.8	6.6	2.0
Bartlett Springs fault system	174	95.0	7.6	6.0
Calaveras (Central)	59	97.0	6.2	15.0
Great Valley 7	45	99.6	6.7	1.5

[1] CGS (2003) California fault parameters from www.consrv.ca.gov/CGS/rghm/psha/index.htm

3.4 SITE HISTORY

The Indian Valley Campus of the College of Marin is located on the former Pacheco Ranch, as described in Section 1.1. After selection of this site for the campus, geotechnical and geologic investigations were conducted in 1967, 1973, 1975, and 1988 to support campus construction. The site grading and construction of the majority of the campus structures had been completed by late 1976. The earthwork and foundation construction for additional structures were completed by 1978. Gabion retaining walls, as discussed in Section 1.1, were subsequently constructed along the creek bank to mitigate the erosion hazard to various

structures after 1988. Construction recommendations for early campus development included repair of a small landslide that would be traversed by roadways. No slides were encountered in the area of the structures at the time of construction, but one shallow slide was encountered near the perimeter road on the south side of the campus. Removal and recompaction of the loose surficial soil was also recommended.

4.0 SITE CONDITIONS

4.1 SURFACE CONDITIONS

A surface description of the campus was presented in detail under Section 1.1, *Site and Project Description*. The Indian Valley Campus is approximately 330 acres in area, with terrain that varies from steeply sloping, tree and brush covered hills to gently sloping, grass-covered valleys dissected by tree-lined ephemeral creeks. A majority of the campus facilities were constructed in the mid 1970's, and are located within the main west to east trending valley on the moderately sloping alluvial deposits along the base of the surrounding hills. As shown on the *Site Plan and Geologic Map*, Plate 3, Ignacio Creek ranges from about Elevation 146 feet at Bridge 6 near the east end of the campus, to about Elevation 195 feet to the west of Bridge 2. The top of bank in these locations is at approximately Elevation 160 feet and Elevation 195 feet, respectively. The campus structures range from between Elevation 170 feet and Elevation 208 feet.

The structures are generally grouped within clusters to the south side of Ignacio Creek, the main creek passing through the campus. On the north side of the creek are eight paved parking lots, Ignacio Boulevard (the only access road), athletic fields, a corporation yard and a police facility. The campus on the south side of the creek is surrounded by a two-lane perimeter roadway that trends along the base of the undeveloped slope that rises steeply toward the south. Vehicular and pedestrian bridges cross Ignacio Creek and the northeast trending, deeply dissected and meandering ephemeral drainage that drains into Ignacio Creek. Additional site improvements include numerous wood retaining walls, concrete patios and walkways and landscaped areas. Much of the portion of the College property that supports the campus development remains undisturbed.

4.2 SUBSURFACE CONDITIONS

The location of the features and subsurface exploration points discussed below, can be seen on the *Site Plan and Geologic Map*, Plate 3.

4.2.1 Pomo Cluster

Previous Borings C-16 through C-21 and P-19 to P-20, performed in 1972 by CCA, and Boring 6 performed in 1967 by CCA, are located in the area of the Pomo Cluster, as shown on Plate 3. The subsurface soils encountered in these previous borings consisted of interlayered stiff to hard sandy clay and dense to very dense clayey sand extending to the maximum depth explored of 25 feet. Weathered sandstone was encountered in two borings at depths of 1 and 9 feet below the ground surface in Previous Borings C-21 and PB-6, Elevations 182 feet and 180

feet, respectively. Atterberg limits tests on two samples from these borings indicate that the near surface soils have a low to moderate plasticity.

4.2.2 Administrative Services Cluster

Previous Borings C-1 through C-4, P-6, B-2 and B-4 (CCA, 1972) were performed in the area of the Administrative Services Cluster, as shown on Plate 3. Subsurface materials in the area of the structures consisted of stiff to very stiff sandy clay and dense to very dense clayey sand that extended at least to the maximum depth explored of 35 feet. The depth of these materials was found to be at least 36 to 39 feet adjacent to the creek. Based on one test of the near surface clayey material, the clay has a low plasticity. Small layers of dense to very dense clayey gravel were also encountered in Previous Borings B-2 and B-4 performed near the creek at depths of 28½ and 35½ feet below the ground surface. Sandstone was encountered in Previous Borings C-2 and B-2 at depths of 17½ feet and 38½ feet, Elevations 161 and 129½ feet, respectively, indicating that the rock surface beneath the alluvium is inclined downward toward the creek.

4.2.3 Miwok Cluster

Previous Borings C-9 through C-15, P-18, PB-10, and PB-11 (CCA, 1972) and PB-4 (CCA, 1967) were performed in the area of the Miwok Cluster. Subsurface materials consisted of stiff to hard sandy clay interlayered with dense to very dense silty and clayey sand and dense to very dense clayey gravel. These materials were encountered to depths of up to 37 feet below the ground surface. Based on three laboratory test results, the upper materials have a low plasticity. Sandstone was encountered in four of the borings below depths of 17½ to 37 feet. The sandstone was encountered at Elevations 163, 167½, and 168½ feet in three of these borings. However, in Boring PB-11, the sandstone was encountered at Elevation 146 feet.

4.2.4 Ohlone Cluster

4.2.4.1 Buildings 18 through 20

Previous Borings C-5 through C-8 (CCA, 1972) and PB-5 (CCA, 1967) were drilled near the three grouped buildings of the Ohlone Cluster. These borings mainly encountered very stiff sandy clay extending to the maximum depth explored of 25 feet. Sandstone was encountered in the southern and central portions of this site in Boring C-7 and C-6 at depths of 9½ and 18½ feet, Elevations 166½ feet and 181½ feet, respectively. Previous Boring PB-5, performed near the footprint of Building 19, encountered mainly dense clayey sand and clayey gravel that extended to a depth of 15 feet. A loose sand layer was encountered between depths of 2 and 5½ feet. Weathered sandstone was encountered in this boring below 15 feet at Elevation 164 feet.

4.2.4.2 Locker Rooms and Pool

Previous Borings located near the locker rooms and pool included Borings PB-1 through PB-17 (CCA, 1975) and PB-12 and PB-13 (CCA, 1972). CCA reported that subsurface materials in this area consisted mainly of sandy clay with a larger proportion of gravelly soil than

encountered elsewhere on campus. All clayey soils encountered were medium stiff to very stiff and gravels and sands were dense. Bedrock consisting of sandstone and chert was encountered in Previous Borings PB-2 and PB-17, in the area of the swimming pool, at depths of 25 and 21 feet, Elevations 188 and 177 feet, respectively.

4.2.4.3 Campus Police/Corporation Yard

Previous Borings C-23 and C-24 (CCA, 1972) were performed at the current police/corporation yard structure. These borings extended to depths of 20 feet, Elevations 185 feet and 186 feet, respectively, and encountered mainly very stiff sandy clay. Layers of dense clayey sand were encountered below a depth of 18½ feet in C-23 and between 11 and 15½ feet in C-24.

4.2.5 Bridges

4.2.5.1 Bridge 1

Previous Boring PB-9 (CCA, 1972) was performed for Bridge 1 on the south side of the creek. This boring encountered very dense clayey sand to a depth of 5 feet. The clayey sand was underlain by 5 feet of very dense clayey gravel. Weathered sandstone was encountered below a depth of 10 feet and extended to the maximum depth explored of 17 feet (Elevation 197 feet).

4.2.5.2 Bridge 2

Fugro's Boring B-8, at Bridge 2, encountered 11 feet of hard sandy silt. The silt layer was underlain by dense clayey sand to about 24½ feet. Below 24½ feet, we encountered a three-foot layer of firm to stiff sandy clay, which was in turn underlain by dense clayey gravel to about 32 feet and very stiff sandy clay to about 42 feet. Bedrock consisting of weathered shale was encountered below a depth of about 42 feet at Elevation 163 feet.

Previous Borings PB-7, PB-7A, and PB-8 (CCA, 1972) were also drilled at the Bridge 2 crossing. These borings encountered 3 to 4 feet of dense to very dense clayey sand at the surface underlain by medium stiff to very stiff sandy clay to about Elevation 171½ feet. Five-foot layers of very dense clayey gravel were encountered in Previous Borings PB-7A and PB-8 at depths of 12 and 19 feet, Elevations 187½ feet and 182½ feet, respectively. Below the clay layer, Previous Borings PB-7A and PB-8 encountered dense to very dense clayey gravel extending to the maximum depth explored of about 40 feet, Elevations 159½ feet and 161½ feet, respectively.

4.2.5.3 Bridge 3 and Paved Culvert A

Previous Borings PB-5 and PB-6 (CCA, 1972) were drilled on the north and south sides of Bridge 3, respectively. Paved Culvert A is approximately 100 feet upstream from Bridge 3. The subsurface materials on the north side consisted of stiff to very stiff sandy clay of medium plasticity to a depth of 20 feet underlain by dense clayey gravel to the maximum depth explored

of 25 feet, Elevation 160 feet. On the south side, the subsurface conditions consisted of interlayered very dense clayey sand and stiff to very stiff sandy clay to the maximum depth explored of 23 feet, Elevation 164 feet.

4.2.5.4 Bridge 4

Fugro's Boring B-13 was drilled on the north side of Bridge 4. We encountered very stiff sandy silt extending to a depth of about 8 feet underlain by stiff to hard sandy clay to a depth of about 23 feet. Below a depth of about 23 feet, we encountered weathered sandstone, which extended to the maximum depth explored of 29 feet. Refusal blow counts were achieved at 23½ and 28½ feet.

Previous Boring C-4 (CCA, 1972) was performed near the south side of Bridge 4. This boring encountered about 3 feet of very stiff sandy clay underlain by very dense clayey sand to a depth of about 10½ feet. Below the sand, another layer of sandy clay was encountered to about 21 feet. Underlying the sandy clay were alternating layers of clayey sand and sandy clay to the maximum depth explored of about 30 feet, Elevation 145 feet.

4.2.5.5 Bridge 5

Previous Borings PB-1 and PB-2 were performed on the north and south sides, respectively, of Bridge 5. The subsurface materials encountered in these borings consisted of alternating layers of stiff to very stiff sandy clay and medium dense to very dense clayey sand. The layers were generally 5 to 10 feet thick. These layers continued until sandstone bedrock was encountered at depths of 22 and 38½ feet, Elevations 143 feet and 129½ feet, in Previous Borings PB-1 and PB-2, respectively. A 2½-foot thick, very dense, clayey gravel layer was encountered in Previous Boring PB-2 at a depth of about 28½ feet.

4.2.5.6 Bridge 6 and Paved Culvert B

Fugro's Boring B-2 and Previous Boring PB-17 (CCA, 1972), completed on the north and south sides of side of Bridge 6, respectively, encountered stiff to hard clay and sandy clay and sandy silt interlayered with dense to very dense clayey and silty sand to a depth of about 20 feet. Below these materials, the two borings encountered stiff to very stiff sandy clay to a depth of 42 feet in Fugro's Boring B-2 and the maximum depth explored of 30 feet in Previous Boring PB-17. Weathered siltstone was encountered below a depth of 42 feet, Elevation 115 feet, in Fugro's Boring B-2. Approximately 2 feet of soft clay fill over 9 feet of debris fill was encountered in Previous Boring PB-16 (CCA, 1972) completed along the north bank of the creek. The debris fill contained refuse (i.e., wood, wire, garbage, and metal).

4.2.5.7 Bridges 7 and 8

Previous Boring C-9 (CCA, 1972) was drilled near the southwest end of Pedestrian Bridge 7. Materials encountered in that boring consisted of stiff to very stiff sandy clay and silty clay with gravel that extended to the maximum depth explored of 25 feet, Elevation161 feet. Previous Borings PB-10 and PB-11 (CCA, 1972) were drilled on the west and east sides of the creek at the Bridge 8 crossing, respectively. The west side of the creek was underlain by 2 feet

of very dense clayey sand and hard sandy clay that extended to a depth of 12 feet. The clay was underlain by 2- and 3-foot layers of very dense clayey gravel and very stiff sandy clay, respectively. Sandstone was encountered below a depth of 17 feet, Elevation 168 feet in PB-10. On the east side of the creek, the subsurface materials consisted of 37 feet of sandy clay with varying amounts of gravel. Sandstone was encountered at a depth of 37 feet and refusal was achieved at 37½ feet, Elevation 145½ feet, in PB-11.

4.2.6 General

The attached boring logs and related information depict location specific subsurface conditions encountered during Fugro's limited field investigation, and the previous studies. The approximate locations of Fugro's borings were determined by survey work completed by CSW / Stuber-Stroeh. The passage of time could result in changes in the subsurface conditions due to environmental changes. It is noted that most, if not all, of the campus improvements were constructed after completion of the previous borings and a portion of the subsurface materials encountered may have been removed or fill may have been placed above those locations. Site specific borings will need to be performed at each structure to verify the current conditions and to satisfy CGS requirements should site-specific assessments be required.

4.3 SITE GEOLOGY

The Indian Valley Campus is located within the Central Belt (mélange belt) of the Franciscan Complex of rocks that constitute the main portion of the Coast Ranges geomorphic province as discussed in Section 3.2, *Tectonic Environment and Regional Geology,* and as shown on the *Regional Geologic Map*, Plate 4. The campus site is generally underlain and surrounded by competent blocks of greywacke sandstone, interbedded with shale and siltstone, mapped as unit KJfs on Plate 4, and on the *Site Plan and Geologic Map*, Plate 3.

The prominent rock within the KJfs unit mapped at IVC consists of thin-bedded shales and siltstones with minor sandstone interbeds that strike west to northwest, and dip at about 25º to 60º to the northeast. The rock is generally soft to very soft, but local moderately hard zones are encountered. Generally weak and friable, the rock was observed to range from moderate to severely weathered. Along the upper elevation portion of the southern slope of the property, high above the campus development, a generally resistant, massive, arkosic sandstone containing minor shale interbeds is exposed within incised portions of the steep swales. This member of the unit, as observed, is strong to very strong, moderately hard to hard, and slightly to moderately weathered.

These competent blocks in the Central Belt are suspended in a mélange matrix composed of a tectonic mixture of variably resistant smaller blocks of rock that can include sandstone, radiolarian chert, metavolcanic rock, serpentinite and exotic metamorphic blocks, all suspended in a sheared shaley matrix. The mélange matrix is mapped as a separate unit when the blocks suspended in the matrix are too small to reasonably map. This mélange matrix unit is mapped as KJfm on Plate 4, and on the *Site Plan and Geologic Map*, Plate 3. The mapped competent blocks within the KJfs unit are underlain by mélange matrix at an unknown depth.

The nature of the contact between competent bocks of the Central Belt and the mélange matrix is a fault contact.

Mélange matrix terrane, as observed on the Indian Valley Campus and surrounding hill slopes, is characterized by hummocky topography that results from the variable resistance to weathering of the smaller suspended blocks and of the matrix materials composing the mélange. The hummocky nature of the topography is also the result of down slope creep of the near surface soils that are generally of moderate to high plasticity, and the small to large-scale slope instabilities that are a distinguishing characteristic of the mélange. The more resistant blocks of rock suspended in the matrix, radiolarian chert as observed at IVC, generally provide the most prominent, and often the only, outcrops observed within the mélange matrix.

As indicated on the *Site Plan and Geologic Map*, Plate 3, the mélange matrix (KJfm) was exposed at the surface on the slopes at the southwest portion of the mapped area, along with a much smaller exposure at the northwest corner of the mapped area. A prominent exposure of chert noted to the north of the western portion of the mapped area, is interpreted to be a resistant block within the mélange matrix (KJfm) that surrounds a competent block of the Central Belt that is mapped as KJfs.

The mélange matrix (KJfm), as discussed above, is prone to landsliding, and a large, older, landslide complex within the mélange matrix is mapped as descending toward the valley from the southwest slope. Steep slopes underlain by sandstone and siltstone (KJfs) ascending south from the campus are also susceptible to landsliding, and an older landslide is mapped as descending into the valley south of the campus development. Both of these landslides can be seen on the *Site Plan and Geologic Map*, Plate 3. Deposits resulting from these landslides within the valley area have been at least partially reworked as alluvium, and their current mapped extent into the valley is variable.

The processes of landsliding and rock weathering have contributed to the alluvial materials (Qal) that are now present beneath the campus development and along Ignacio Creek. Alluvium is also present within drainages along the slopes, but these deposits are not presented on Plate 3 as mapped units. Within the channel descending from the southwest slope (KJfm), the alluvium consists exclusively of metamorphic materials derived from the mélange matrix and older associated landslide debris. Sandstone alluvium derived from the southern slope (KJfs) and associated landslide debris is present within the channel draining from the base of the landslide mapped to the east of the mélange matrix. These two incised and meandering channels converge in the area south of Building 17, where the alluvial materials begin to coalesce, while the channel continues its descent toward its eventual convergence with Ignacio Creek. Alluvium entering the campus area from the west, within Ignacio Creek, consists of a combination of metamorphic materials derived from the mélange matrix (KJfm) and sandstone derived from the competent Central Belt blocks (KJfs).

Colluvial soils (Qc) are mapped where significant accumulation is likely present. The colluvium generally consists of relatively loose, heterogeneous and incoherent masses of soil material or rock fragments that are deposited primarily by mass wasting usually at the base of a slope or within topographic swales.

Fill materials (Qf) resulting from grading work associated with campus development are present at numerous locations within the campus. The largest area of fill appears to have been placed for development of the athletic fields at the northwest portion of the campus. This alluvial valley area was cut and filled to prepare the current relatively level playing fields. Numerous small fills and sliver fills (not mapped) are present throughout the campus to develop roadways, culverts below roadways, bridge abutment areas, and building pads. Debris fill associated with the residence, barn, garage and bridge formerly located along Ignacio Creek at the west end of the campus property was observed within the creek channel banks at the west edge of the campus property.

4.4 SURFACE GEOLOGIC RECONNAISSANCE

A reconnaissance of the IVC campus was performed by our Certified Engineering Geologist to map the site geology, and to observe conditions within the creeks. The reconnaissance included the slopes to the north and south of the campus development, to the limits of the College of Marin property. The discussion presented under Section 4.3, *Site Geology*, and the geologic mapping presented on the *Site Plan and Geologic Map*, Plate 3, are a presentation of the pertinent portion of the information gathered during that reconnaissance.

4.5 GROUNDWATER

Groundwater was not encountered in previous borings performed near the Pomo and Miwok Clusters, or the main body of the Ohlone Cluster. At the Administration Services Cluster, groundwater was encountered in Previous Borings C-1, PB-2, and PB-4 at depths of 26, 28, and 39 feet, a range of between Elevation 132 feet and 143 feet. Groundwater was encountered in the current Fugro borings and previous borings at Bridge 2 between Elevations 160 and 182 feet, Bridge 3 at Elevation 165 feet, Bridge 5 at Elevation 141 feet, and Bridge 6 between Elevation 142 feet and Elevation 145 feet. No groundwater was encountered at other bridges. The current borings performed by Fugro, B-2 and B-8, were completed as open-standpipe piezometers. During drilling, groundwater was measured in Borings B-2 and B-8 at depths of about 12 and 24 feet, Elevation 145 feet and Elevation 177½ feet, respectively. Stabilized groundwater measurements were recorded in these piezometers November 30, 2005. At that time, groundwater was measured in Borings B-2 and B-8, at depths of about 13½ feet and 17½ feet, corresponding to Elevation 143½ feet and Elevation 188 feet, respectively.

We note that fluctuations in the groundwater level could occur due to change in seasons, variations in rainfall, and other factors.

5.0 GEOLOGIC HAZARDS EVALUATION

Geologic hazards can be grouped into seismic and non-seismic categories. Seismic hazards can be further subdivided into surface fault offset, strong ground motion, and ground deformation hazard due to seismic shaking. Seismic ground deformation includes liquefaction, seismically induced waves, inundation due to dam or embankment failure, flooding hazard and landsliding. Certain types of ground deformation and water movement, however, can also occur under non-seismic conditions, so there is some overlap between seismic and non-seismic

hazards. In general, the list of potential geologic hazards can also include such rare occurrences as mine collapse, hydro-compaction, and peat oxidation, but these rare hazards do not warrant discussion in connection with the Indian Valley Campus.

5.1 STABILITY OF CREEK BANKS

Ignacio Creek trends in a west to east direction as it passes through the campus, and an unnamed tributary creek descending from the slope to the southwest have a confluence near the Ohlone Cluster at the center of the campus. These creeks, which are both deeply incised within alluvial materials and locally landslide debris, are attempting to reduce their down slope velocity by meandering. Meandering of these channels has resulted in bank erosion, and mitigation measures were employed in the past to protect structures located very near the bank of the unnamed tributary creek. The mitigation measures consisted in construction of a 60-foot-long and 30-foot-long, gabion retaining walls adjacent to the location of Buildings 12 and 17, respectively, as discussed in Sections 1.1.2 and 1.1.3.

Meandering of these channels has lead to local undermining of the banks. This process, along with scour within the channel, and uncontrolled surface drainage entering the channel near the abutments, have resulted in local removal of soil that was intended to provide coverage for the abutments and bents for the various bridges that span these creeks. Typically, pile foundations for bridges such as these are designed assuming vertical and lateral capacity is derived from materials encountered beginning from below the bottom of the channel; and therefore, local exposure of the piles below bent caps and abutments should not impact the integrity of the bridge foundations.

Future creek meandering, bank erosion and local undermining of creek banks could result in loss of ground surface area between certain campus structures and the top of the creek banks. This future erosion and loss of creek bank area should be a relatively slow process that can be observed and monitored over time. Based on our observations, sudden foundation failure to a campus structure should not be an issue, as these buildings are founded on drilled, cast-in-place, concrete piers. Should undesirable erosion processes appear to be encroaching on the area between the creek bank and a campus structure, mitigation measures could be implemented that may include, gabion retaining walls, concrete stitch pier walls, or rip rap.

Detailed study to develop a topographic map for the creek, characterize the creek morphology, and quantify water flow rates and flow fluctuation within the creek system is currently being performed by others. A detailed assessment of the creek bank erosion issue is to be addressed as part of that study. Information resulting from that assessment would be referenced in an updated version of this report when specific building assessments are completed.

5.2 SURFACE FAULT OFFSET

5.2.1 Aerial Photograph Review

A Fugro State of California Certified Engineering Geologist (CEG) reviewed historic, black and white, stereo-paired aerial photographs of the project site and vicinity to discern geomorphic evidence of geologic hazards and snapshots into the history of development at the site. Aerial photographs were reviewed at Pacific Aerial Surveys in Oakland. The stereo-paired aerial photographs reviewed for the project are listed in the reference section at the end of this report.

The earliest photos reviewed were from 1950, 1958, 1970 and 1972, prior to college development. Older landsliding along the southwest slope and southern slope was evident, as well as the accumulation of landslide debris at the base of the slope. Evidence of the west to east trending fault mapped by previous investigators as roughly coinciding with the location of Ignacio Creek, and trending away from the creek at the west end of the property was not strong. A subtle tonal lineation possibly suggestive of faulting was observed to extend along the alluvium and up the slope at the west end of the property. This evidence was not strong enough to support the presence of a fault in the area. A house, barn, garage, bridge and associated other improvements formerly present along the creek at the west end of the campus property were observed in the photographs.

Campus construction was in progress as observed in the 1975 air photos. The Miwok and Ohlone Clusters, Power Plant #2, and the Corporation Yard Building #22, were present at that time. Other portions of the site had been graded in preparation for additional construction. No evidence suggestive of faulting was observed. Further observation of the topography and older landsliding on the southern slope was useful.

Study of photographs from 1982, 1986, 1990, 1995, 1996, and 2000, offered little additional insight to confirm the presence or absence of the fault trending through the valley as inferred by previous investigators. Again, evidence was not strong enough to support the presence of a fault in the area.

5.2.2 Fault Rupture Hazard Zoning by the State

The Alquist-Priolo Earthquake Fault Zoning Act (Act) was signed into law December 22, 1972, and went into effect March 7, 1973. The purpose of the Act is to prohibit the location of most structures for human occupancy across traces of active faults and to thereby mitigate the hazard of surface fault rupture. Under the Act, the State Geologist is required to delineate *Earthquake Fault Zones*, previously known as *Special Studies Zones*, along known active faults in California. All of the Earthquake Fault Zone maps issued prior to January 1, 1977, were based almost solely on the mapping and interpretations of others. Later maps were based extensively on interpretations of the Fault Evaluation and Zoning Program staff that presented their findings in Fault Evaluation Reports (FERs). The campus is not located within an area considered to have the potential for fault rupture hazard and is therefore not included in the Earthquake Fault Zones mapping.

In 1973, CCA (1973) performed a study aimed at determining if there was actually a fault crossing the site. CCA claimed the existence of the fault was developed based on “reviewing and field checking regional and site geologic mapping”, although no discussion of evidence of faulting gained by field mapping was provided. Additional evidence for the presence of a fault was based on performance of 8,200 feet of resistivity surveys and 3,000 feet of magnetometer surveys, with over 1,350 individual readings taken. The data gathered during this exercise was retained in CCA’s files, and is currently unavailable for review. It should be noted that these geophysical methods, and the results obtained by such studies, are not currently an accepted approach to conclusively determine the presence or absence of faulting.

Based on a culmination of their work, CCA concluded that an inactive fault passes through the site, as presented on their geologic map. The fault was mapped as crossing the south end of athletic field on the west end of the campus and as generally following the path of Ignacio Creek. At the west end of the site, the fault was mapped as passing through the location subsequently established as the corporation yard. They reported that the chance of movements along this fault to be exceedingly remote, however, these conclusions could not be considered absolute.

The most recent regional geologic map of the Novato Quadrangle prepared by Rice, et al. (2002), released by the California Geological Survey, and presented on Plate 4, does not include a concealed trace of a fault as passing through the valley as indicated by previous investigators. In addition, many of the other previously mapped faults in the area have not been presented on this recent publication.

Evidence to suggest that a fault passes through the Indian Valley Campus, roughly coinciding with the Ignacio Creek drainage, has not been supported by the current study. Based on this, the fault feature presented by the previous investigators is not included on our *Site Plan and Geologic Map*, Plate 3.

5.3 STRONG GROUND MOTION

A preliminary Probabilistic Seismic Hazard Assessment (PSHA) was performed based on the 2002 USGS/CGS probabilistic seismic hazard assessment model (revised 2003) found at http://www.consrv.ca.gov/cgs/rghm/pshamap/pshamain.html. This model is for the design basis earthquake (DBE), 10 percent probability of exceedance in 50 years (475-year return period) event. The model provides three values of ground motion, the peak ground acceleration (PGA) and spectral acceleration (Sa) at 0.2 second and 1.0 second periods. Plate 7, *Probabilistic Seismic Hazard Map*, presents the college site on the CGS probabilistic seismic hazard map. Results of our analysis are presented below. If individual buildings are to be assessed, a site-specific PSHA should be performed for each building taking into account local soil conditions. The site specific analysis should include determination of both design basis earthquake (DBE) ground motions and upper bound earthquake (UBE, 10 percent probability of exceedance in 100 years) ground motions.

Table 4. Seismic Design Parameters per 2002 USGS/CGS for Structures on Alluvium and Soft Rock

Ground Motion	Alluvium (S_D)	Soft Rock (S_C)
PGA	0.484	0.47
Sa (0.2 s)	1.176	1.117
Sa (1.0 s)	0.661	0.578

5.4 SEISMIC DESIGN BY CALIFORNIA BUILDING CODE (CBC)

Structures should be designed to resist the lateral forces generated by earthquake shaking in accordance with local design practice. This section presents seismic design criteria from the 2001 California Building Code (CBC).

Table 5. Seismic Design Parameters per 2001 CBC for Structures on Very Dense Soil (S_D) and Soft Rock (S_C)

Description	Parameter	1998 CBC Reference
Seismic zone	4	Plate 16A-2
Seismic zone factor (Z)	0.4	Plate 16A-I
Soil profile type	S_C or S_D	Plate 16A-J
Seismic Coefficients		
C_a (for S_c sites)	$0.40N_a$	Table 16A-Q
C_v (for S_c sites)	$0.56N_v$	Table 16A-R
C_a (for S_D sites)	$0.44N_a$	Table 16A-Q
C_v (for S_D sites)	$0.64N_v$	Table 16A-R
Near source factors		
N_a	1.0	Table 16A-S
N_v	1.14	Table 16A-T

The near source factor N_v is greater than unity as a result of the site's proximity to a Type A fault, the Rodgers Creek fault. The near source factors N_a and N_v are equal to unity at distances greater than or equal to 10 km and 15 km, respectively, from a Type A Near-source Zone.

5.5 SHAKING HAZARD

During a moderate to severe earthquake occurring on any of the previously listed active faults, strong ground shaking at the college will likely occur. Strong ground shaking not only can cause the structures to shake, but it also has the potential capability of inducing other phenomena that can indirectly cause damage to structures. These phenomena include soil liquefaction, seismically induced waves such as tsunamis and seiches, inundation due to dam

or embankment failure, flooding, landsliding, and other shaking hazards such as lateral spreading, ground cracking, lurching and water movement. Detailed discussions of these phenomena with respect to the site are presented in the subsequent paragraphs.

5.5.1 Liquefaction

Soil liquefaction is a phenomenon primarily associated with saturated cohesionless soil layers located close to the ground surface. These soils lose strength during cyclic loading, such as imposed by earthquakes. During the loss of strength, the soil acquires ”mobility" sufficient to permit both horizontal and vertical movements. Soils that are most susceptible to liquefaction are clean, loose, uniformly graded, saturated, fine-grained sands that lie close to the ground surface; a depth usually considered less than 50 feet.

According to the Association of Bay Area Governments (ABAG) liquefaction susceptibility interactive map, Plate 8, found at http://gis.abag.ca.gov/website/liq/viewer.htm (ABAG 2003), the college is predominantly located in an area where the subsurface materials are considered to have a moderate susceptibility for liquefaction. The Novato quadrangle has not yet been mapped under California Geological Survey’s Seismic Hazard Mapping Act.

Based on our interpretation of the materials encountered within the deeper borings performed by Fugro, Borings B-2, B-8, and B-13, and materials encountered within the previous borings by others, it is our opinion that the susceptibility for the materials present beneath the site to liquefy is very low.

5.5.2 Seismically Induced Waves

During a major earthquake, strong waves such as tsunamis or seiches may be generated in large bodies of water and may cause damage to structures located in close proximity to them. The tsunami, or seismic sea wave, is an open ocean phenomenon caused by fault displacement, volcanism, or other abrupt movement on the ocean floor, that often occur at a considerable depth. According to the United States Geological Survey Maps Showing Areas of Potential Inundation by Tsunamis in the San Francisco Bay Region, California, dated 1972, the Indian Valley Campus is not located within a zone designated for potential damage after a tsunami event.

The seiche is a wave that occurs in an enclosed basin as a result of fault displacement in the basin bottom, large landslides into the basin, earthquakes motion impacting the basin, or from periodic oscillation or sloshing of the water in the basin. No body of water susceptible to seiches is located in the vicinity of the Indian Valley Campus.

5.5.3 Inundation Due to Dam or Embankment Failure

According to the Association for Bay Area Government’s Dam Failure Inundation Hazard Map for Novato, Plate 9, found at http://www.abag.ca.gov/cgi-bin/pickdamx.pl (ABAG, 1995), the Indian Valley Campus is not located in an area that has potential of being impacted by any level of inundation due to dam failure. A small, man-made embankment impounds a small pond

located to the west of the College of Marin's property at IVC. It is our opinion that the flow of water resulting from a breach of this embankment would not impact the campus and would be contained within the banks of Ignacio Creek.

5.5.4 Flooding Hazard

The main portion of the campus is located along Ignacio Creek at the base of a valley at about Elevation 160 to 180 feet (relative to mean sea level datum). According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the City of Novato, revised in 1989, the Indian Valley Campus is outside the limit of detailed study. The map indicates that the campus is within an area with a Zone X designation. Zone X is defined as an area determined to be outside the 500-year flood plain. However, the map indicates that Ignacio Creek up to the limit of detailed study immediately west of Arrowhead Lane, is within an area designated as Zone AE, defined as an area within the 100-year floodplain with the base flood elevation determined. The map indicates that the floodway is contained within the channel. The base flood elevation to the west of Arrowhead Lane is +142 feet (relative to the NVGD 29 datum). Plate 10, *Flood Hazard Map*, shows the campus plotted on the Flood Insurance Rate Map.

The 1967 CCA report presented results of a flooding analysis prepared by Murray & McCormick, which indicate that the maximum computed 100-year flow rate in the north fork of Arroyo del San Jose (Ignacio Creek) would be 500 cubic feet per second. They concluded that the channel at that time, if maintained, could carry that flow.

The site is not within an area that may be inundated by a 100-year flood according to a United States Geological Survey publication by Limerinos, et al., 1973.

This information is preliminary and is being refined by other team members as part of the current assessment of the Indian Valley College campus. Updated information from others will be included in the final version of this report.

5.5.5 Landsliding

As noted in Section 5.3.1, the campus is not located within a quadrangle that has been currently mapped by the California Geological Survey under the Seismic Hazard Mapping Act, which includes mapping of landslide hazard zones. Rice (1974) maps the lower portions of the campus where most development is located as being in an area of most stability (in a scale of 1 to 4). The slopes bordering the valley are classified as 2 and 3.

Landslides as presented in the *Site Plan and Geologic Map*, Plate 3, are older scars are deposits. It is possible that future smaller scale landsliding could occur within these features, particularly from the area mapped as Franciscan mélange matrix (KJfm) due to the unstable nature of the materials present within that formation. The current development area is substantially distant from these source zones that future instabilities, should they occur, would not impact campus structures, but could impact the perimeter roadway that trends along the base of the slope south of the campus.

5.5.6 Other Shaking Hazards

We have also considered the possibility of the occurrence of other seismic hazards. Due to the low liquefaction potential at the site, we judge the possibility of lateral spreading of buildings and their foundations toward the open face of Ignacio Creek to be remote. Ground cracking and lurching are relatively unknown phenomena, and in our opinion, they can be caused by any of the phenomena discussed above.

We note that ground shaking during an earthquake could cause objects within buildings that are not rigidly attached to the building structure (such as desks and book shelves) to undergo some differential movements with respect to the structure. Building construction should include designs that reduce such potential differential movements and the adverse effects of such movements where they cannot be prevented.

6.0 CLOSING

This report has been prepared for the exclusive use of the Marin Community College District and their consultants for specific application to the Indian Valley Campus. This report should be reviewed and updated for each specific campus improvement project. In the event that there are any changes in the ownership, nature, or design, of the project, the conclusions and recommendations contained in this report shall not be considered valid unless 1) the project changes are reviewed by Fugro West, Inc., and 2) conclusions and recommendations presented in this report are modified or verified in writing. Reliance on this report by others must be at their risk unless we are consulted on the use or limitations. We cannot be responsible for the impacts of any changes in engineering geologic standards, practices, or regulations subsequent to performance of services without our further consultation. We can neither vouch for the accuracy of information supplied by others, nor accept consequences for unconsulted use of segregated portions of this report.

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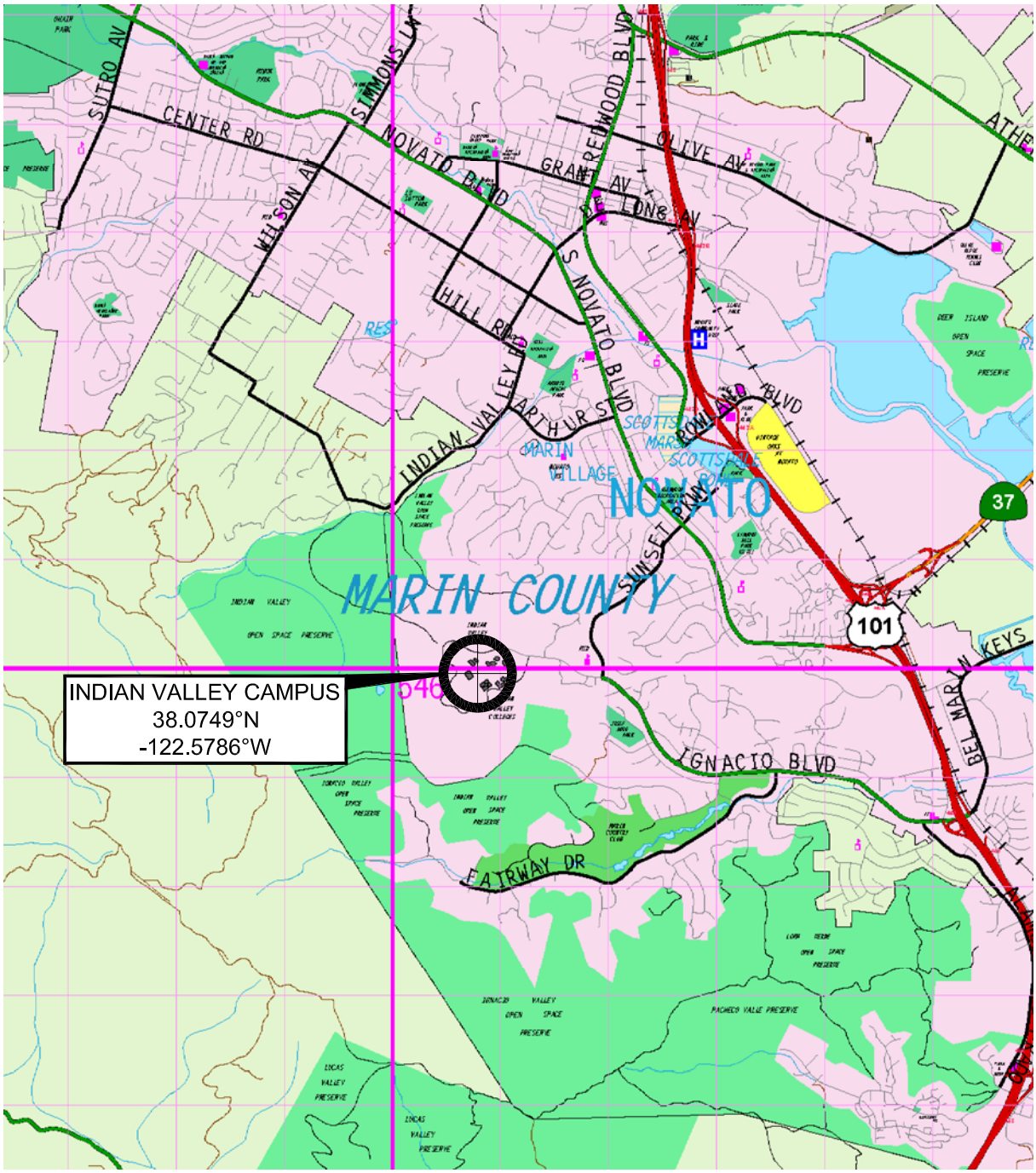
PLATES



SOURCE: This Base Map was based on 2006 Street Guide, Bay Area Counties, The Thomas Guide.

NORTH

0 4000 8000

FEET

SITE VICINITY MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California

PLATE 1

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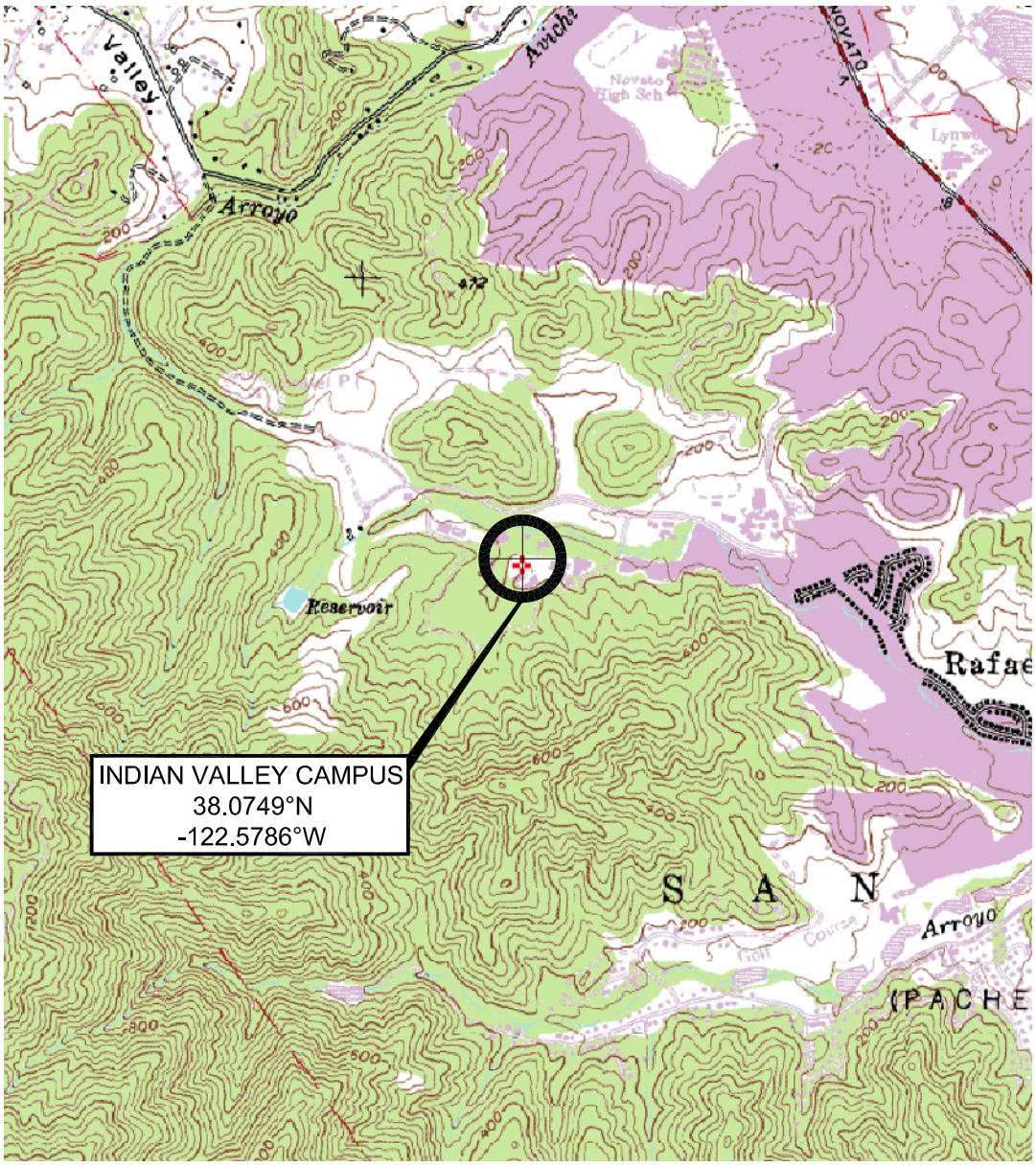

SOURCE: This Local Topographic Map was based on www.topo.com

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LOCAL TOPOGRAPHIC MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California

GEOLOGIC DESCRIPTIONS

Qf	FILL (LARGER DEPOSITS SHOWN)
Qls	LANDSLIDE
Qc	COLLUVIUM
Qal	ALLUVIUM
KJfs	FRANCISCAN COMPLEX SANDSTONE AND SHALE
KJfm	FRANCISCAN COMPLEX MELANGE MATRIX

GEOLOGIC CONTACT (APPROXIMATE)
QUERIED WHERE UNCERTAIN,
DOTTED WHERE CONCEALED

FAULT (APPROXIMATE)
QUERIED WHERE UNCERTAIN,
DOTTED WHERE CONCEALED

LANDSLIDE CROWN

LEGEND

PB-7 APPROXIMATE LOCATION OF PREVIOUS BORING BY COOPER CLARK & ASSOCIATES

PB-17 APPROXIMATE LOCATION OF PREVIOUS BORING BY COOPER CLARK & ASSOCIATES

C-24 APPROXIMATE LOCATION OF PREVIOUS BORING BY COOPER CLARK & ASSOCIATES

P-23 APPROXIMATE LOCATION OF PREVIOUS BORING BY COOPER CLARK & ASSOCIATES

PB-17 APPROXIMATE LOCATION OF PREVIOUS BORING BY COOPER CLARK & ASSOCIATES

B-18 APPROXIMATE LOCATION OF EXPLORATORY BORING BY FUGRO (2005)

NORTH

0 100 200
FEET

PLATE 3
SITE PLAN AND GEOLOGIC MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California

BASE MAP SOURCE: Provided by CSW Stuber-Stroeh Engineering Group, Inc.

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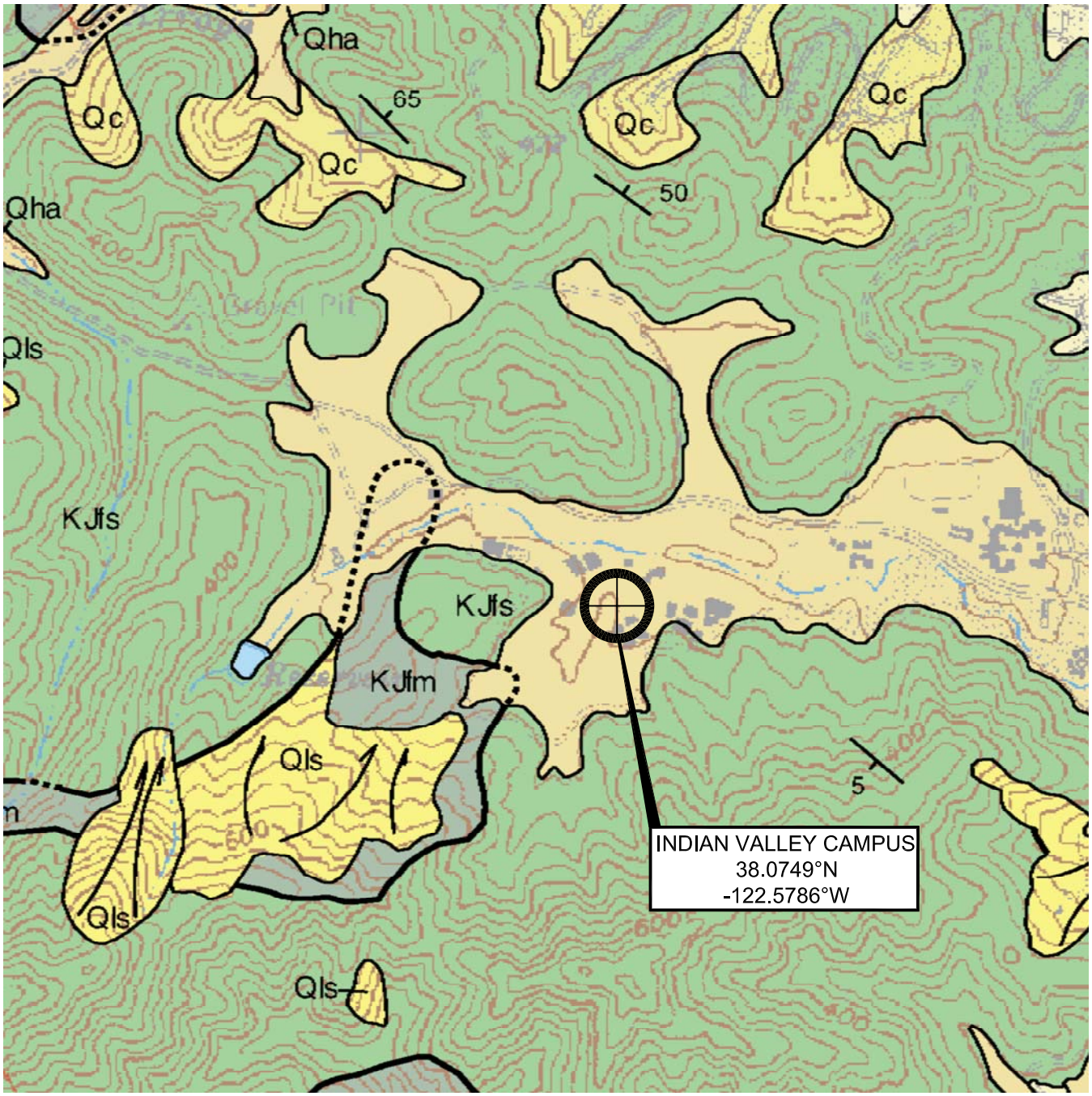

SOURCE: Geologic Map of the Novato 7.5' Quadrangle, Marin and Sonoma Counties, California: A Digital Database, Version 1.0 by Salem R. Rice, Theodore C. Smith, Rudolph G. Strand, David L.Wagner, Carolyn E. Randolph-Loar, Robert C. Witter and Kevin B. Clahan

LEGEND:

- Qc — Colluvium. Unconsolidated and unsorted soil and weathered rock fragments accumulated on or at the base of slopes.
- Qha — Holocene alluvium, undivided- Alluvium deposited on fans, terraces, or in basins. Gravel, sand, and silt that are poorly to moderately sorted.
- Qpf — Latest Pleistocene (<~30,000) alluvial fan deposits. Similar to Holocene fans (Qhf), but they are more dissected.
- Qls — Landslides. Includes debris flow and block slump landslides. Arrows show the direction of movement.
- KJfs — Franciscan Complex sandstone and shale- Thick bedded, arkosic sandstone ar interbedded shale. Arkose is composed of coarse, fairly well sorted quartz and feldspar grains with minor fine-grained matrix.
- KJfm — Franciscan Complex melange- tectonic mixture of masses of resistant rock types including sandstone, altered mafic volcanic rock (greenstone), chert, serpentinite, and exotic metamorphic rocks embedded in a sheared, shaley matrix. Blocks within the melange large enough to be shown on the map are: ss, sandstone and shale; ch, chert; mv, metamorphosed basaltic rocks; gs, greenstone.

NORTH

0 1000 2000
FEET

REGIONAL GEOLOGIC MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California

PLATE 4

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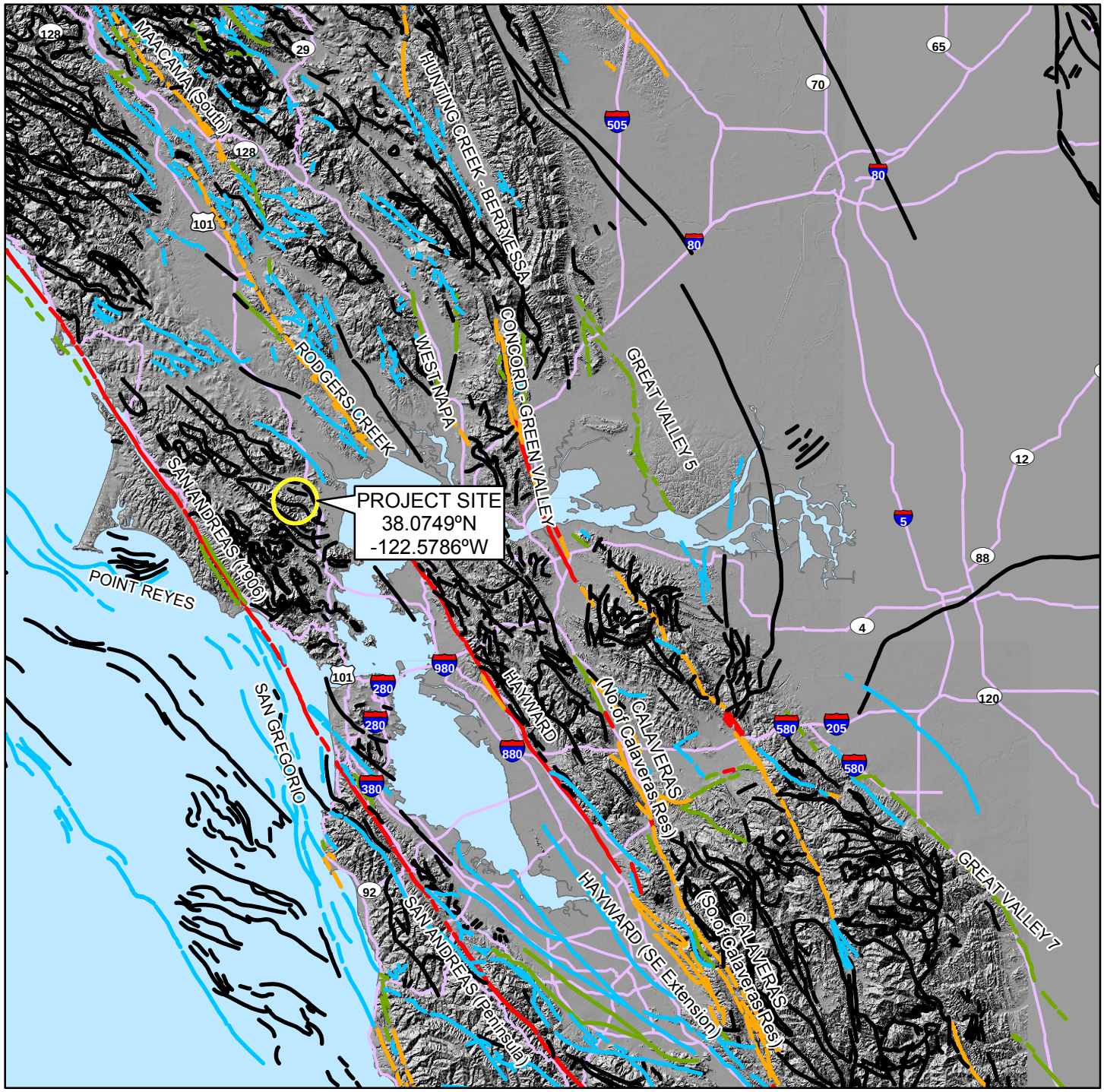

Source: California Division of Mines and Geology (California Geological Survey)
http://gmw.consrv.ca.gov/shmp/index.htm, (2000)

NORTH

0 10 20 40
Miles

LEGEND
- QUATERNARY
- PREQUATERNARY
- LATE QUATERNARY
- HISTORIC
- HOLOCENE

REGIONAL FAULT LOCATION MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California

PLATE 5

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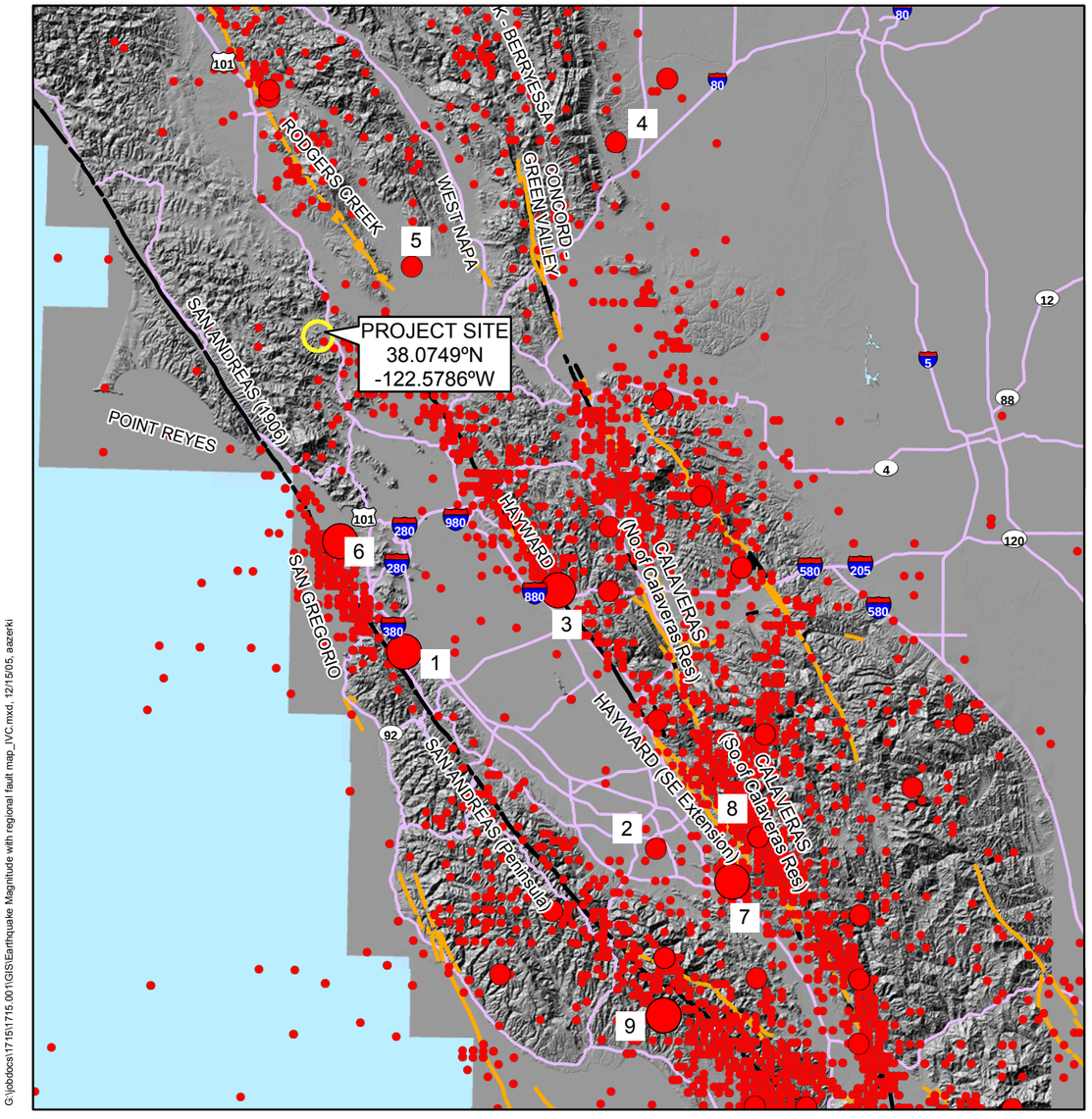


G:\jobdocs\1715\1715.001\GIS\Earthquake Magnitude with regional fault map_IVC.mxd, 12/15/05, aazerki

Sources: California Division of Mines and Geology (California Geological Survey) http://gmw.consrv.ca.gov/shmp/index.htm;
U.S.G.S. Open File Report 94-647; http://neic.usgs.gov/neis/epic/epic_rect.html

Known Magnitude ≥6.5 Earthquakes Since 1836

	Eathquake	Magnitude
1	San Francisco Peninsula, CA - June, 1938	6.5
2	South Santa Cruz Mountains, CA - October 8, 1865	6.3
3	Hayward, CA - October 21, 1868	6.8
4	Vacaville, CA - April 19, 1892	6.4
5	Mare Island, CA - April 19, 1898	6.2
6	1906 Earthquake, CA - April 18, 1906	8.2
7	Morgan Hill, CA - July 6, 1911	6.6
8	Morgan Hill, CA - April 24, 1984	6.2
9	Loma Prieta, CA - October 18, 1989	7.1

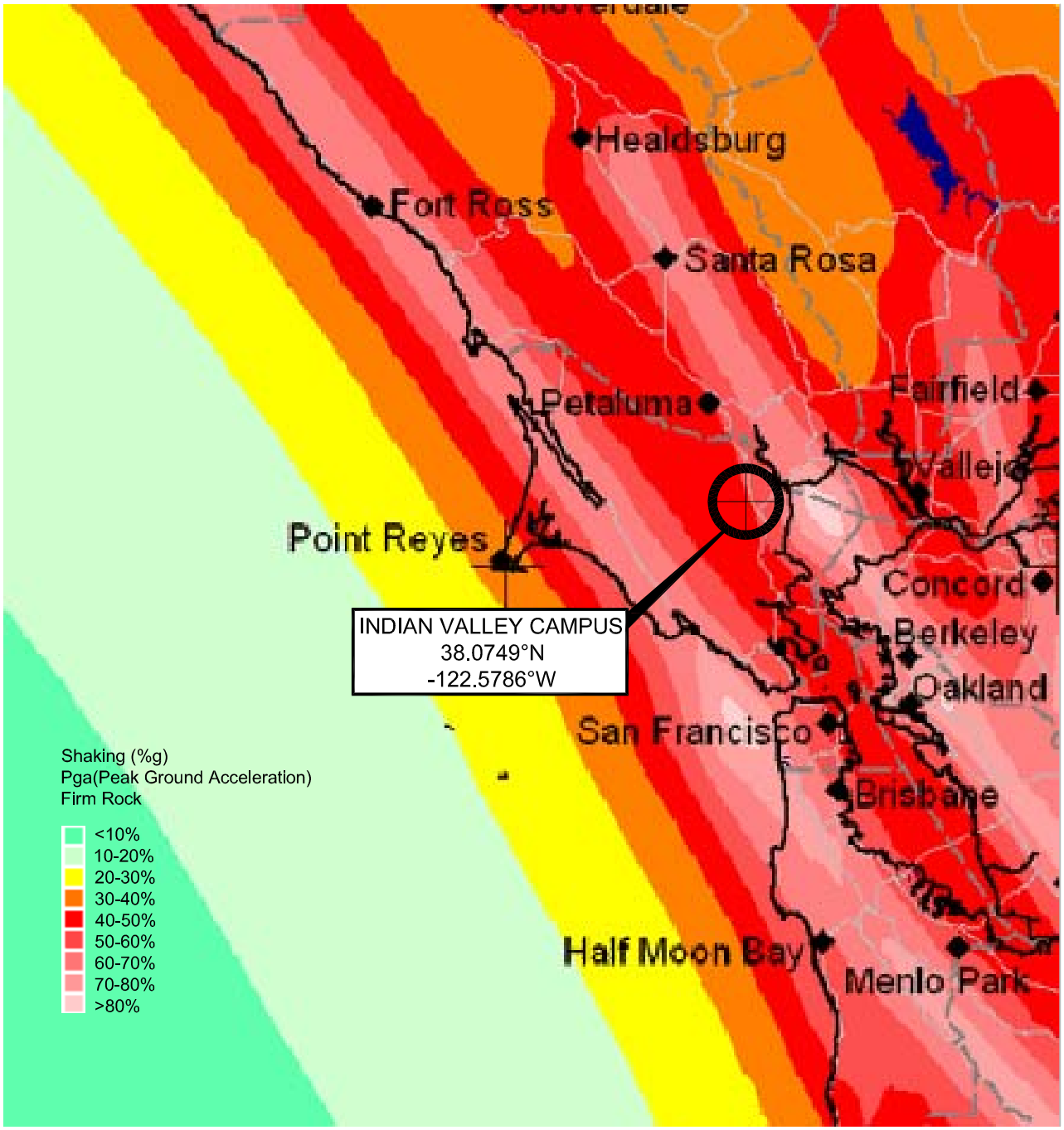
Note: The above earthquakes are identified on the map by a white square labeled with the reference number. Dates are given in Greenwich Mean Time

LEGEND

- MAJOR ROAD
- HISTORIC FAULT
- HOLOCENE FAULT
- <5.5 MAGNITUDE EARTHQUAKE
- 5.5-6.4 MAGNITUDE EARTHQUAKE
- ≥6.5 MAGNITUDE EARTHQUAKE

NORTH
0 10 20
Miles

REGIONAL EPICENTER MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California



SOURCE: This Probabilistic Seismic Hazards Map is based on http://www.consrv.ca.gov/cgs/rghm/pshamap/pshamap.asp

NORTH

PROBABILISTIC SEISMIC HAZARD MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California

PLATE 7

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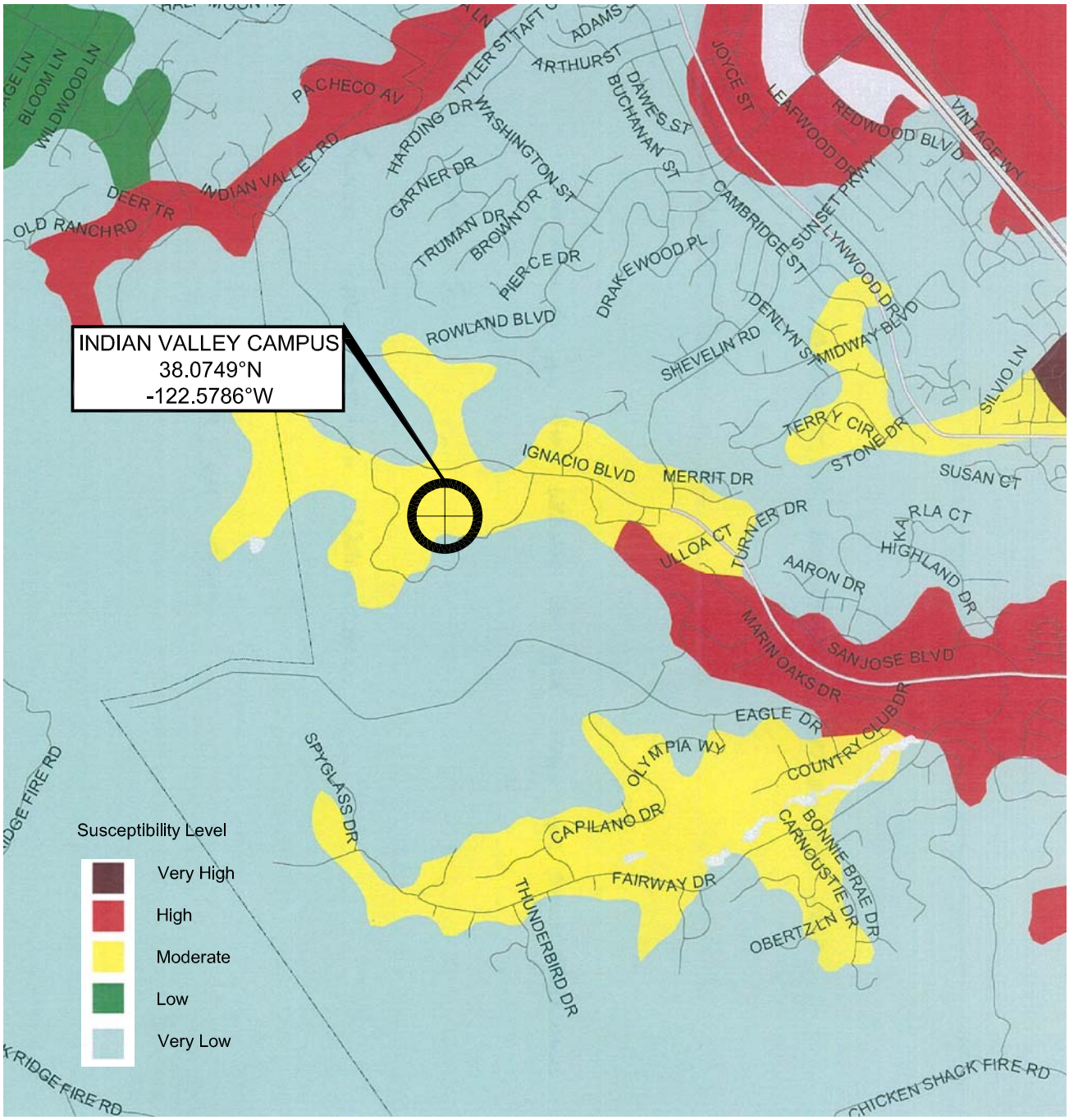

SOURCE: This ABAG Liquefaction Susceptibility Map was based on work by William Lettis & Associates, Inc. and USGS. USGS Open-File Report 00-444, Knudsen & others, 2000.

NORTH

0 1000 2000

FEET

ABAG LIQUEFACTION SUSCEPTIBILITY MAP

College of Marin, Indian Valley Campus
Novato, Marin County, California

PLATE 8

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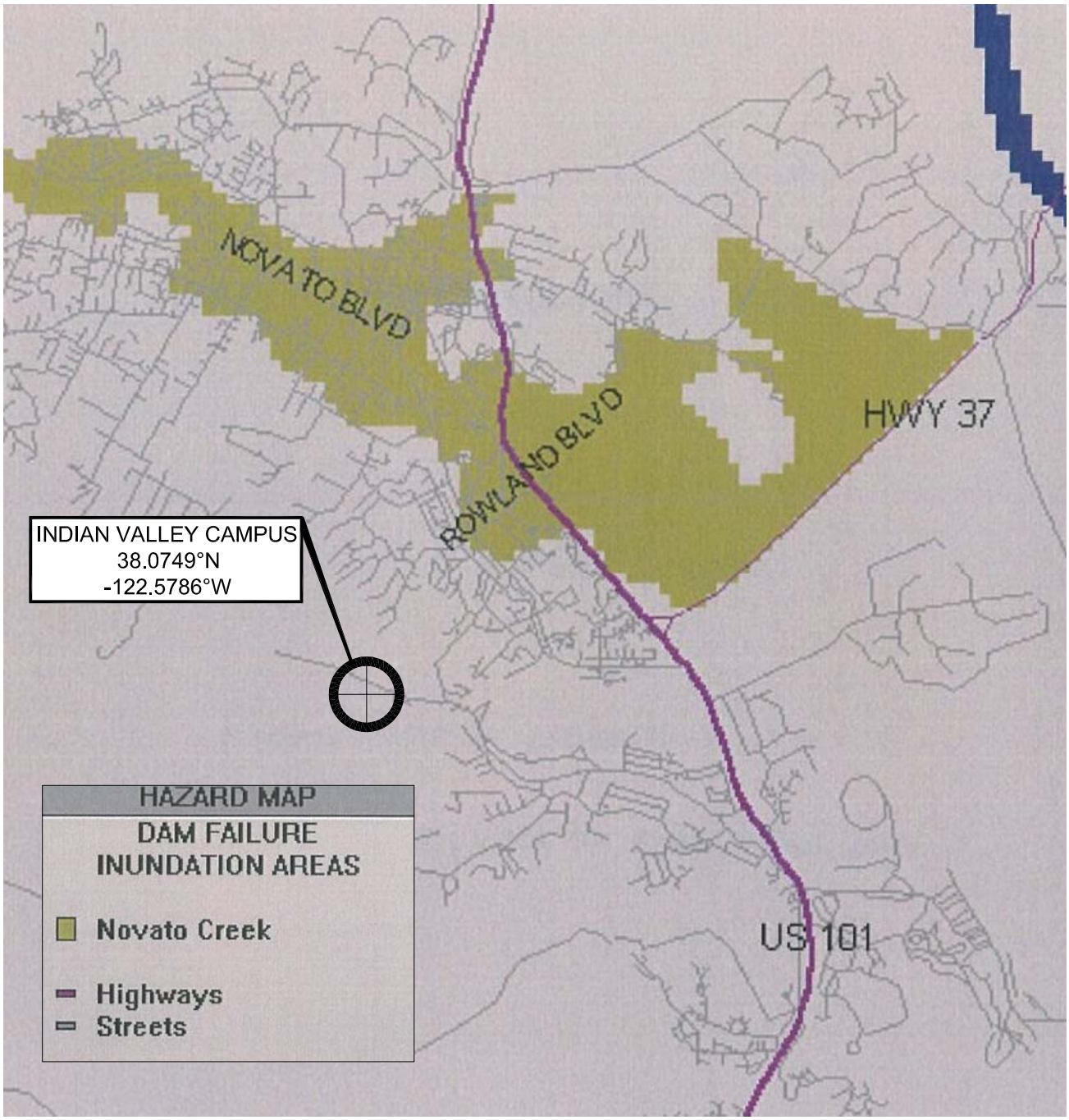


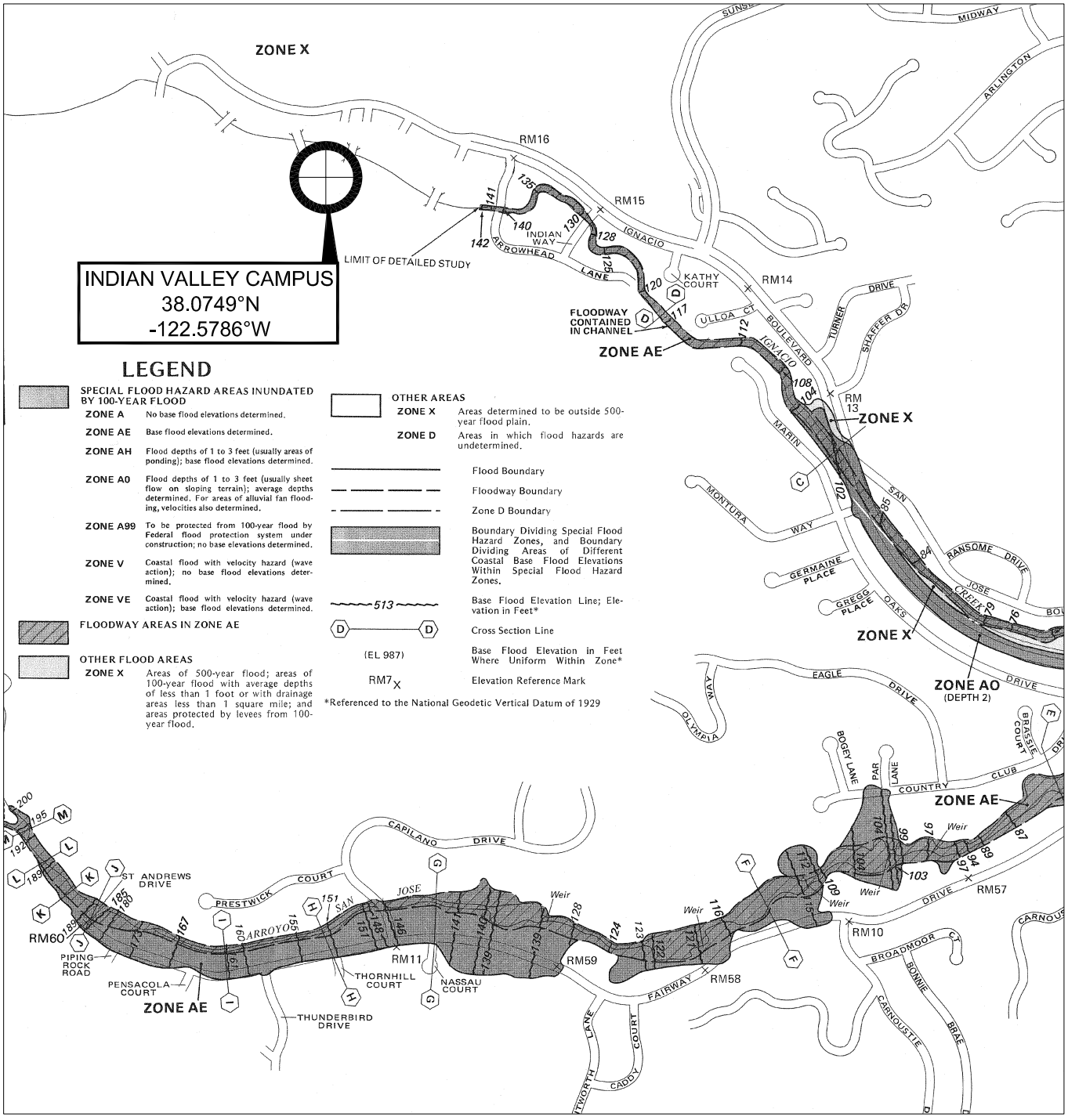
SOURCE: This Association of Bay Area Government (ABAG) Dam Failure Inundation Hazard Map for Novato was based on http://www.abag.ca.gov.

NORTH

ABAG DAM FAILURE MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California

PLATE 9

G:\jobdocs\1715\1715.001\Drawings\VC\A1715.001-006.dwg 12-12-05 10:58:51 AM rwong



SOURCE: Federal Emergency Management Agency, Flood Insurance Rate Map, City of Novato, California, Community Panel Number 060178-0004 C, map revised September 29, 1989.

FLOOD HAZARD MAP
College of Marin, Indian Valley Campus
Novato, Marin County, California

PLATE 10

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APPENDIX A
FIELD EXPLORATION

APPENDIX A
FIELD EXPLORATION

The field exploration consisted of a surface reconnaissance, geologic mapping and a subsurface exploration program. Prior to the undertaking the subsurface drilling program, permits for the borings were obtained from Marin County Environmental Health Department. In addition, the boring locations were reviewed with College of Marin facilities personnel and the project civil engineer, CSW/Stuber-Stroeh, who assisted with utility clearance. Underground Service Alert (USA) was also notified of the intention to perform the subsurface exploration. A representative from the Federated Indians of Graton Rancheria was onsite full-time during our field work to identify Indian midden, if encountered. An archeologist was also onsite part-time to identify historic artifacts, if encountered. A project-specific Health & Safety Plan was prepared prior to the exploration according to standard Fugro safety protocol, and the contents of the document were shared with the drilling subcontractor's field personnel.

The subsurface exploration was conducted using a truck-mounted drill rig equipped with hollow-stem auger and solid-flight augers. Two, 8-inch-diameter exploratory borings, designated B-2 and B-13, were drilled on October 18, 2005, with a CME-75 drill rig, to a maximum depth of 45 feet. Boring B-2 was converted to a piezometer. Boring B-8 was drilled on October 19, 2005, with a DR 10K drill rig equipped with 8-inch-diameter hollow-stem augers. This boring extended to a depth of 45 feet and was converted to a piezometer. Fifteen 8-inch-diameter borings extending to depths of 5 feet were drilled with the DR 10 K drill rig using solid flight augers. These borings, designated B-1, B-3 through B-7, B-9 through B-12, and B-14 through B-18, were drilled between October 19 and 21, 2005. The approximate locations of the exploratory borings are shown on the *Site Plan and Geologic Map*, Plate 3. The materials encountered in the borings were logged by our engineer as the drilling progressed. The soils are described in accordance with the Unified Soil Classification System (ASTM D-2487.) Upon completion of our field exploration, the borings were backfilled with neat cement grout and capped with concrete, with exception for B-2 and B-8, which were converted to piezometers. The logs of the borings, as well as a key for the classification of the soil (Plate A-1), are included as part of this appendix.

The piezometers constructed in Borings B-2 and B-8, are of the open-standpipe variety. The standpipe material consists of nominal 2-inch-diameter, flush-joint, Schedule 40 PVC pipe. The 10-foot-long screen interval placed near the bottom of the borehole consists of factory constructed, 0.020-inch-wide slots. Filter pack placed around the screen interval consists of #3 Monterey sand that extended at least 2 feet above the slotted interval. Bentonite pellets were installed as a seal for an interval of at least 2 feet above the sand filter pack. The remainder of the annular space around the standpipe, and above the bentonite seal, consists of Portland cement grout placed neat against the borehole wall. Traffic-rated covers were installed above the completed piezometers to provide security and protection for the instruments.

Representative soil samples were obtained from the borings using a Modified California split-barrel drive sampler (outside diameter of 3.0 inches, inside diameter of 2.5 inches) and a Standard Penetration Test (SPT) split-barrel drive sampler (outside diameter of 2.0 inches,

inside diameter of 1.375 inches). All samples were transmitted to our laboratory for evaluation and appropriate testing. Both sampler types are indicated in the "Sampler" column of the boring logs as designated in Plate A-1.

For borings drilled with the CME-75 drill rig, resistance blow counts were obtained with the samplers by dropping a 140-pound hammer through a 30-inch free fall using an automatic hammer system. The sampler was driven 18 inches, or a shorter distance where hard resistance was encountered, and the number of blows were recorded for each 6 inches of penetration. The blows per foot recorded on the boring logs represent the accumulated number of blows that were required to drive the last 12 inches. Due to the use of the automatic hammer system the blow counts are not standard penetration resistance values.

Resistance blow counts with the DR 10K drill rig were obtained with the samplers by dropping a 140-pound hammer through a 30-inch free fall using a down-hole wire line hammer system. The sampler was driven 18 inches, or a shorter distance where hard resistance was encountered, and the number of blows were recorded for each 6 inches of penetration. The blows per foot recorded on the boring logs represent the accumulated number of blows that were required to drive the last 12 inches. Due to the use of the down-hole wire line hammer system, the blow counts are not standard penetration resistance values.

The elevations indicated on the boring logs were obtained by interpreting the topographic contours on an undated drawing provided by CSW/Stuber-Stroeh. The topographic survey for the project was performed by Sandis Humber Jones.

The attached boring logs and related information show our interpretation of the subsurface conditions at the dates and locations indicated, and it is not warranted that they are representative of subsurface conditions at other locations and times.

Previous Borings PB-1 through PB-17, C-1 through C-24, and P-1 through P-23, by Cooper-Clark & Associates were drilled between August 7 and 14, 1972, using truck-mounted 18-inch-diameter, helical-auger equipment and/or truck-mounted, 24-inch-diameter rotary-bucket equipment. Previous Borings PB-1 through PB-17 were drilled by Cooper-Clark & Associates on February 18 and 19, 1975, using a truck mounted 12-inch-diameter, helical-auger equipment and on February 24, 1975 with truck mounted, 5-inch-diameter rotary wash equipment.

MAJOR DIVISIONS			GROUP NAMES	
COARSE-GRAINED SOILS (More than 50% retained on the No. 200 sieve)	GRAVELS (MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE)	Clean gravels less than 5% fines	GW	Well-Graded Gravel
			GP	Poorly Graded Gravel
		Gravels with more than 12% fines	GM	Silty Gravel
			GC	Clayey Gravel
	SANDS (MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE)	Clean sand less than 5% fines	SW	Well-Graded Sand
			SP	Poorly Graded Sand
		Sands with more than 12% fines	SM	Silty Sand
			SC	Clayey Sand
FINE-GRAINED SOILS (50% or more passes the No. 200 sieve)	SILTS AND CLAYS (Liquid Limit Less than 50%)		ML	Silt
			CL	Lean Clay
			OL	Organic Silt
	SILTS AND CLAYS (Liquid Limit Greater than 50%)		MH	Elastic Silt
			CH	Fat Clay
			OH	Organic Clay
HIGHLY ORGANIC SOILS			PT	Peat or Highly Organic Soils
			FILL	Debris or Mixed Fill
			AC	Asphalt Concrete Pavement with Aggregate Base

GENERAL NOTES

Classification of Soils per ASTM D2487 or D2488

Geologic Formation noted in bold font at the top of interpreted interval

Sloped line in break column indicates transitional boundary

Blow counts for California Liner Sampler shown in ( )

Length of sample symbol approximates recovery length

SAMPLER DRIVING RESISTANCE

Number of blows with 140 lb. hammer, falling 30-in. to drive sampler 1-ft. after seating sampler 6-in.; for example,

Blows/ft	Description
25	25 blows drove sampler 12" after initial 6" of seating
50/7"	50 blows drove sampler 7" after initial 6" of seating
Ref/3"	50 blows drove sampler 3" during initial 6" seating interval (Ref=Refusal)

STRENGTH TEST METHOD

U = Unconfined Compression
Q = Unconsolidated Undrained Triaxial
T = Torvane
P = Pocket Penetrometer
M = Miniature Vane
F = Field Vane

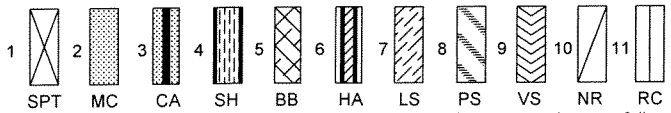
OTHER TESTS

k = Permeability
Consol = Consolidation
Gs = Specific Gravity
MA = Particle Size Analysis
EI = Expansion Index
OVM = Organic Vapor Measurement

WATER LEVEL SYMBOLS

- Initial or perched water level
- Final ground water level
- Seepages encountered

SAMPLER TYPE



Samplers and sampler dimensions (unless otherwise noted in report text) are as follows:

1 SPT Sampler, driven 1 3/8" ID, 2" OD
2 MOD CA Liner Sampler 2 3/8" ID, 3" OD
3 CA Liner Sampler 1 7/8" ID, 2.5" OD
4 Thin-walled Tube, pushed 2 7/8" ID, 3" OD
5 Bulk Bag Sample (from cuttings)
6 Hand Auger Sample
7 Lexan Sample
8 Pitcher Sample
9 Vibracore Sample
10 No Sample Recovered
11 Rock Core

SOIL STRUCTURE

Fissured: Containing shrinkage or relief cracks, often filled with fine sand or silt, usually more or less vertical.

Pocket: Inclusion of material of different texture that is smaller than the diameter of the sample.

Parting: Inclusion less than 1/8 inch thick extending through the sample.

Seam: Inclusion 1/8 inch to 3 inches thick extending through the sample.

Layer: Inclusion greater than 3 inches thick extending through the sample.

Laminated: Soil sample composed of alternating partings or seams of different soil types.

Interlayered: Soil sample composed of alternating layers of different soil type.

Intermixed: Soil sample composed of pockets of different soil type, and layered or laminated structure is not evident.

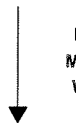
CONSISTENCY

Clays	Blows/Foot SPT	Undrained Shear Strength (ksf)
Very Soft	0 - 2	0 - 0.25
Soft	3 - 4	0.25 - 0.5
Firm	5 - 8	0.5 - 1
Stiff	9 - 16	1 - 2
Very Stiff	17 - 32	2 - 4
Hard	Over 32	Over 4

RELATIVE DENSITY

Sands and Gravels	Blows/Foot SPT
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	11 - 30
Dense	31 - 50
Very Dense	Over 50

INCREASING VISUAL MOISTURE CONTENT



Information on each boring log is a compilation of subsurface conditions and soil or rock classifications obtained from the field as well as from laboratory testing of samples. Strata have been interpreted by commonly accepted procedures. The stratum lines on the logs may be transitional and approximate in nature. Water level measurements refer only to those observed at the time and places indicated, and can vary with time, geologic condition, or construction activity.

TERMS AND SYMBOLS USED ON BORING LOGS

PLATE A-1

WEATHERING *

FRESH	Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer blows if crystalline.
VERY SLIGHT	Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rings under hammer blows if crystalline.
SLIGHT	Rock generally fresh, joints stained, and discoloration extends into rock up to 1 inch. Joints may contain clay. In granitoid rocks, some occasional feldspar crystals are dull and discolored. Crystalline rock rings under hammer blows.
MODERATE	Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some show clayey. Rock has dull sound under hammer blows and shows significant loss of strength as compared with fresh rock.
MODERATELY SEVERE	All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick. Rock goes "clunk" when struck.
SEVERE	All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In some granitoid rocks, all feldspar kaolinized to some extent. Some fragments of strong rock usually remain.
VERY SEVERE	All rock except quartz discolored or stained. Rock "fabric" discernible, but rock mass effectively reduced to "soil" with only fragments of strong rock remaining.
COMPLETE	Rock reduced to "soil." Rock "fabric" not discernible or discernible only in small scattered locations. Quartz may be present as dikes or stringers.

* After GSA, Engineering Geology Division, Data Sheet 1, 1980.

STRENGTH

VERY STRONG	Resists breakage from hammer blows; but will yield dust and small chips.
STRONG	Withstands a few hammer blows; but will yield large fragments.
MODERATELY STRONG	Withstands a few firm hammer blows.
WEAK	Crumbles with light hammer blows.
FRIABLE	Can be broken down with hand and finger pressure.

ROCK QUALITY DESIGNATION

RQD	ROCK MASS QUALITY
90-100	Excellent
75-90	Good
50-75	Fair
25-50	Poor
0-25	Very Poor

Sandstone

Claystone

Shale

Siltstone

Rock Quality Designation (RQD) is the ratio of the total length of core segments longer than 4 in. to the total length of the core run, expressed as a percentage. Mechanical breaks are ignored in the calculation of total length of segments greater than 4 in. long. RQD will always be equal to, or less than, % Recovery.

Percent Recovery is the ratio of the total length of core recovered to the total length of the core run, expressed as a percentage.

DISCONTINUITY SPACING

JOINTS	BEDDING, CLEAVAGE, FOLIATION	SPACING
VERY CLOSE	VERY THIN	Less than 2 inches
CLOSE	THIN	2 inches to 1 foot
MODERATELY CLOSE	MEDIUM	1 foot to 3 feet
WIDE	THICK	3 feet to 10 feet
VERY WIDE	VERY THICK	Greater than 10 feet

HARDNESS

VERY HARD	Cannot be scratched with a knife; metal powder left on sample.
HARD	Scratched with knife with difficulty; trace of metal powder left on samples; scratch faintly visible.
MODERATELY HARD	Readily scratched with knife, scratch leaves heavy trace of dust and is readily visible.
LOW HARDNESS	Gouged or grooved to 1/16 inch by firm pressure on knife; scratches with penny.
SOFT	Gouged or grooved readily with knife; small thin pieces can be broken by finger pressure.
VERY SOFT	Carves with knife; scratched by fingernail.

ROUGHNESS OF DISCONTINUITY SURFACES

SMOOTH	Appears smooth and is essentially smooth to the touch. May be slickensided.
SLIGHTLY ROUGH	Asperities on surfaces are visible and distinct.
MEDIUM ROUGH	Asperities are clearly visible and surface feels abrasive.
ROUGH	Large angular asperities can be seen. Some ridge and high side angle steps are evident.
VERY ROUGH	Near vertical steps and ridges occur on surfaces.

ROCK MASS PHYSICAL DESCRIPTION

LOCATION: South side of Parking Lot 1

SURFACE EL: 153.5 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (5 inches)							
1		B1			Lean CLAY with sand (CL): very stiff, brown, moist, fine-grained sand							
2		1		(33)								
3		2				108	21					
4		3		21	Sandy Lean CLAY (CL): very stiff, yellowish brown, moist, fine-grained sand			64			4.0 P	
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 21, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-1

College of Marin, Indian Valley Campus
Novato, California

LOCATION: North approach to Bridge 6

SURFACE EL: 157.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
				Asphalt Concrete (3 inches)							
	1		(34)	Sandy SILT (ML): very stiff, brown, dry, fine- to medium-grained sand, with trace gravel (weak sandstone fragments)							
	2										
	3		17							>4.5 P	
5											
	4		(27)								
	5			Sandy Lean CLAY (CL): very stiff, yellowish brown, damp to moist, fine to coarse-grained sand, with silt and weak sandstone fragments	112	12					
10				▽							
				Silty CLAY with sand (CL): stiff, reddish brown and gray, wet, fine-grained sand							
	6		10				64				
15				- grades gray at 15 feet							
				Silty GRAVEL with sand (GM): dense, yellowish and reddish brown, wet, fine and coarse, subangular to subrounded gravel (weak fine-grained sandstone fragments), fine-grained sand							
	7		(45)								
	8										
20				Sandy Lean CLAY (CL): stiff, brown, wet, fine-grained sand							
	9		18								

Continued

BORING DEPTH: 45.0 ft
DEPTH TO WATER: 12.0 ft
BACKFILL: Established as a Piezometer
COMPLETION DATE: October 18, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger
HAMMER TYPE: Automatic Trip, 140 lb
RIG TYPE: CME 75
DRILLED BY: Clear Heart Drilling, Rick
LOGGED BY: J Hagen

LOG OF BORING NO. B-2

College of Marin, Indian Valley Campus
Novato, California

LOCATION: North approach to Bridge 6

SURFACE EL: 157.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
	10		23	Silty CLAY (CL): very stiff, dark gray, moist to wet, trace fine-grained sand, zones of gravel (weak sandstone fragments)							
30											
	11		17	Clayey GRAVEL (GC): medium dense, yellowish and reddish brown, wet, fine, (weak sandstone fragments in a gray clay binder)							
35											
	12		(19)	Gravelly Lean CLAY (CL): stiff, brown and gray, wet, gravel (fine and coarse, subrounded to subangular, weak sandstone fragments)							
	13										
40											
				SILTSTONE: soft, brown, wet, weak							
	14		50/6"								
45											

BORING DEPTH: 45.0 ft
DEPTH TO WATER: 12.0 ft
BACKFILL: Established as a Piezometer
COMPLETION DATE: October 18, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger
HAMMER TYPE: Automatic Trip, 140 lb
RIG TYPE: CME 75
DRILLED BY: Clear Heart Drilling, Rick
LOGGED BY: J Hagen

LOG OF BORING NO. B-2

College of Marin, Indian Valley Campus
Novato, California

LOCATION: Perimeter Road, near Miwok Cluster

SURFACE EL: 219.5 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B4			SILT with sand (ML): very stiff, yellowish brown, moist, fine-grained sand							R-Value
2		1		(50/5")								
		2			SILTSTONE: soft, brown, moist							
3												
				ref/5"								
4												
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 21, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-4

College of Marin, Indian Valley Campus
Novato, California

LOCATION: Perimeter Road

SURFACE EL: 220.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B5			Sandy Lean CLAY (CL): very stiff, reddish brown, moist, fine-grained sand, with a trace of gravel							R-Value
2		1		(41)								
3		2				110	6					
4		3		26	CLAYSTONE: soft, reddish brown, moist, with a trace of sand							
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 21, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-5

College of Marin, Indian Valley Campus
Novato, California

LOCATION: Perimeter Road

SURFACE EL: 239.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B6			Sandy Lean CLAY (CL): hard, reddish brown, moist, fine to medium-grained sand							
2		1		(50/6")	CLAYSTONE: soft, reddish brown, moist, with a trace of fine- to medium-grained sand							
3		2										
4		3		90								
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 21, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-6

College of Marin, Indian Valley Campus
Novato, California

LOCATION: Perimeter Road

SURFACE EL: 236.5 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (4 inches)							
1		B7			Sandy Lean CLAY (CL): stiff, orangish brown, moist, fine-grained sand							
2		1		62	CLAYSTONE: medium hard, brown, moist, with fine-grained sand							
3												
4					SHALE: hard, gray to black							
5												
6												
7												
8												
9												

BORING DEPTH: 4.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 21, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-7

College of Marin, Indian Valley Campus
Novato, California

LOCATION: South approach to Bridge 2

SURFACE EL: 205.5 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
	B8			Asphalt Concrete (2.5 inches)							
				Silty SAND (SM): dense, brown, dry to damp, fine-grained, with rootlets and a trace of gravel (fine, friable sandstone fragments)							
	1		(63)		87	9					
	2		30					34	17		
5											
	3		34	- grades clayey, damp to moist, with gravel (coarse, friable sandstone fragments) at 8.5 feet							
10				- grades gravelly at 10 feet with coarse and subangular gravel							
				Gravelly Lean CLAY (CL): hard, brown, moist, (yellowish and reddish brown, fine-grained, severely weathered sandstone fragments in clay matrix)							
	4		(46)								
	5				112	17					
15											
	6		24	- grades coarse gravel at 18.5 feet							
20											
				▽ - grades wet with less gravel below 23.5 feet							
	7		(16)								
	8			Sandy Lean CLAY (CL): stiff, gray and brown,			60			1.2 P	

Continued

BORING DEPTH: 45.0 ft
DEPTH TO WATER: 23.0 ft
BACKFILL: Established as a Piezometer
COMPLETION DATE: October 19, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger
HAMMER TYPE: Automatic Trip, 140 lb
RIG TYPE: DR 10K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: J Hagen

LOG OF BORING NO. B-8

College of Marin, Indian Valley Campus
Novato, California

LOCATION: South approach to Bridge 2

SURFACE EL: 205.5 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	SAMPLE NO.	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
			wet, fine-grained sand						1.2 P	
	9	(46)	Clayey SAND with gravel (SC): dense, dark gray, wet, fine- to coarse-grained, subangular gravel, fine and coarse (sandstone fragments)			17				MA
30	10									
	11	34	Lean CLAY with sand (CL): hard, brown with gray mottling, wet, fine-grained sand			57				
35										
40	12	(82)								
	13		- grades gravelly (fine, angular, sandstone fragments)						4.2 P	
	14	50/5"	SHALE: moderately hard, grayish brown, wet							
45										

BORING DEPTH: 45.0 ft
DEPTH TO WATER: 23.0 ft
BACKFILL: Established as a Piezometer
COMPLETION DATE: October 19, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger
HAMMER TYPE: Automatic Trip, 140 lb
RIG TYPE: DR 10K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: J Hagen

LOG OF BORING NO. B-8

College of Marin, Indian Valley Campus
Novato, California

LOCATION: North side of Parking Lot 8

SURFACE EL: 206.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B9			Lean CLAY with sand (CL): firm, dark brown, moist, fine- to medium-grained sand, trace of silt							
2		1		(9)								
3		2				103	19					
4		3		8	- grades firm to stiff below 3.5 feet			60			3.0 P	
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 19, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 4-in. dia. Solid Stem Auger
HAMMER TYPE: Automatic Trip, 140 lb
RIG TYPE: DR 10K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-9

College of Marin, Indian Valley Campus
Novato, California

LOCATION: Ignacio Blvd. at west entrance of Parking Lot 7

SURFACE EL: 211.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3.5 inches)							
1		B10			Sandy SILT (ML): firm, orangish brown, moist, fine-grained sand							R-Value
2		1		(ref/5")	SHALE: moderately hard, gray, moist							
3												
4		2		ref/5"								
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 20, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-10

College of Marin, Indian Valley Campus
Novato, California

LOCATION: Northeast side of Parking Lot 7

SURFACE EL: 203.5 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B11			Sandy Lean CLAY (CL): stiff, reddish brown, moist, fine- to medium-grained sand							R-Value
2		1		(16)		110	18				1.3 P	
3		2										
4		3		10	- grades brown below 3.5 feet							
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 20, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-11

College of Marin, Indian Valley Campus
Novato, California

LOCATION: South side of Parking Lot 6

SURFACE EL: 183.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B12			Well-graded SAND with silt and gravel (SW-SM): medium dense, reddish brown, moist, fine to medium-grained, some gravel (coarse, subangular claystone fragments)							
2		1		(28)				9				MA
3												
4		2		48	Clayey GRAVEL (GC-GW): dense, reddish brown, moist, fine and coarse, angular (claystone fragments)							
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 20, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-12

College of Marin, Indian Valley Campus
Novato, California

LOCATION: East of the north approach to Bridge 4

SURFACE EL: 176.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
				Asphalt Concrete (2.5 inches)							
	1		(25)	Sandy SILT with gravel (ML): very stiff, brown, dry, fine- to medium-grained sand, with rootlets and gravel (reddish sandstone)							
	2										
5	3		24								
				Silty SAND (SM): medium dense, brown, moist, fine-grained, light brown and reddish gravel (fine, friable sandstone fragments)							
	4		(38)								
10	5										
	6		13	Gravelly Lean CLAY (CL): stiff, brown and gray, moist, fine, angular gravel (sandstone fragments), with a trace of fine-grained sand and a trace of organics							
15											
	7		(27)	- increase in sand content at 18.5 feet, wet at 20 feet			57			3.1 P	
20	8										
	9		ref/2.5"	SANDSTONE: soft, orangish brown, moist, fine-grained, moderate weathering							

Continued

BORING DEPTH: 29.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 18, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger
HAMMER TYPE: Automatic Trip, 140 lb
RIG TYPE: CME 75
DRILLED BY: Clear Heart Drilling, Rick
LOGGED BY: J Hagen

LOG OF BORING NO. B-13

College of Marin, Indian Valley Campus
Novato, California

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	LOCATION: East of the north approach to Bridge 4 SURFACE EL: 176.0 ft +/- 0.5 (rel. MSL datum) MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
		10	⊠	ref/3.5"	- grades gray, moderately hard at 28.5 feet							
30												
35												
40												
45												

BORING DEPTH: 29.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 18, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Hollow Stem Auger
HAMMER TYPE: Automatic Trip, 140 lb
RIG TYPE: CME 75
DRILLED BY: Clear Heart Drilling, Rick
LOGGED BY: J Hagen

LOG OF BORING NO. B-13

College of Marin, Indian Valley Campus
Novato, California

LOCATION: South side of Parking Lot 5

SURFACE EL: 173.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B14			Sandy Lean CLAY (CL): very stiff to hard, orangish brown, moist, fine- to medium-grained sand, with coarse gravel (claystone fragments)							R-Value
2				(49)								
3		1 2									>4.5 P	
4		3		30								
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 20, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-14

College of Marin, Indian Valley Campus
Novato, California

LOCATION: Ignacio Blvd. at dogbone

SURFACE EL: 171.5 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B15			Lean CLAY with sand (CL): firm, reddish brown, moist, fine to medium-grained sand							R-Value
2		1		(9)								
3		2									2.0 P	
4		3		6								
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 20, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-15

College of Marin, Indian Valley Campus
Novato, California

LOCATION: Middle of Parking Lot 3

SURFACE EL: 165.0 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B16			Lean CLAY with sand (CL): very stiff, brown to reddish brown, moist, fine-grained sand							R-Value
2		1		(27)		105	16					
3		2									>4.5 P	
4		3		19	- grades orangish brown below 3.5 feet							
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement
COMPLETION DATE: October 20, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-16

College of Marin, Indian Valley Campus
Novato, California

LOCATION: North side of Parking Lot 2

SURFACE EL: 159.5 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B17			Lean CLAY with sand (CL): stiff, orangish brown, moist, fine-grained sand							
2		1		(20)								
3		2										
4		3		14	Clayey SAND (SC): medium dense, reddish brown, moist, fine- to medium-grained, trace of gravel			24			>4.5 P	
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 20, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-17

College of Marin, Indian Valley Campus
Novato, California

LOCATION: Ignacio Blvd. near northeast corner of Parking Lot 2

SURFACE EL: 159.5 ft +/- 0.5 (rel. MSL datum)

DEPTH, ft	MATERIAL SYMBOL	SAMPLE NO.	SAMPLER TYPE	SAMPLER BLOW COUNT/ PRESSURE, psi	MATERIAL DESCRIPTION	DRY UNIT WEIGHT, pcf	WATER CONTENT, %	% PASSING #200 SIEVE	LIQUID LIMIT, %	PLASTICITY INDEX	UNDRAINED SHEAR STRENGTH, S_u, ksf	OTHER TESTS
0					Asphalt Concrete (3 inches)							
1		B18			Clayey SAND (SC): medium dense, reddish brown, moist, fine-grained							R-Value (0-5')
2		1		(25)		114	13					
3		2										
4		3		16								
5												
6												
7												
8												
9												

BORING DEPTH: 5.0 ft
DEPTH TO WATER: Not Encountered
BACKFILL: Portland Cement, Concrete Cap
COMPLETION DATE: October 20, 2005
NOTES: 1. Terms and symbols defined on Plate A-1.
2. Rock mass physical description on Plate A-2.

DRILLING METHOD: 8-in. dia. Solid Stem Auger
HAMMER TYPE: Rope and Cathead, 140 lb
RIG TYPE: DR 5K
DRILLED BY: Clear Heart Drilling, Pablo/Ryan
LOGGED BY: L Al Atik

LOG OF BORING NO. B-18

College of Marin, Indian Valley Campus
Novato, California

APPENDIX B
LABORATORY TESTING PROGRAM

APPENDIX B
LABORATORY TESTING PROGRAM

The laboratory testing program was directed toward a quantitative and qualitative evaluation of the physical and mechanical properties of the soils underlying the site.

The natural water content was determined on 10 samples of the materials recovered from the borings in accordance with ASTM Test Designation D-2216. These water contents are recorded on the boring logs at the appropriate sample depths. Dry density determinations were performed on 10 samples of the subsurface soils to evaluate their physical properties. The results of these tests are shown on the boring logs at the appropriate sample depths.

Atterberg Limit determinations were performed on one sample of the subsurface soils to determine the range of water content over which this material exhibits plasticity. The Atterberg limits were determined in accordance with ASTM Test Designations D-428 and D-424. These values are used to classify the soil in accordance with the Unified Soil Classification System and to indicate the soil's compressibility and expansion potentials. The results of this test are presented on Plate B-1, and on the log of the boring at the appropriate sample depth.

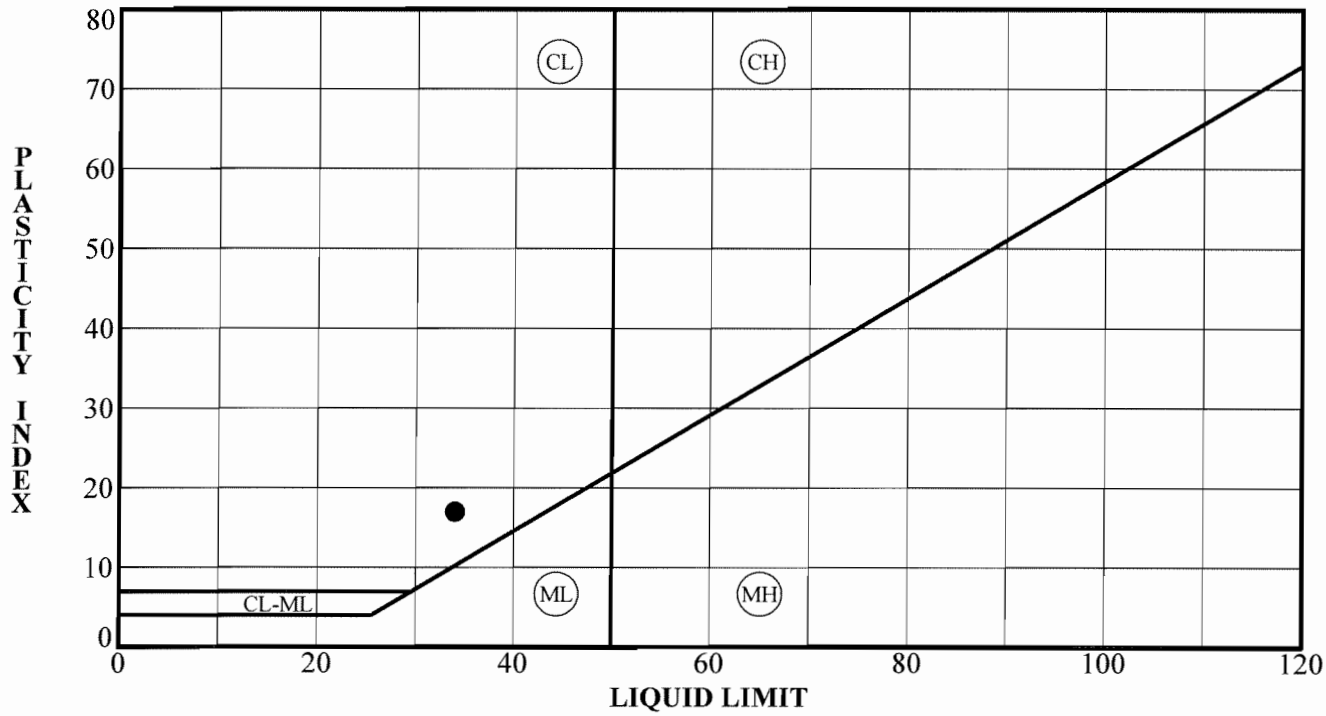
The percent passing the #200 sieve was determined on seven samples of the subsurface soils to aid in the classification of these soils. These tests were performed in accordance with ASTM Designation D-1140. The results of these tests are shown on the boring logs at the appropriate sample depths.

Gradation tests were performed on two samples of the subsurface soils in accordance with California Test Method No. 202. These tests were performed to assist in the classification of the soils and to determine their grain size distribution. The results of these tests are presented on Plate B-2.

Eight resistance R- value tests were performed on representative samples of the surface soils onsite to provide data for pavement design. The tests were performed in accordance with California Test Method 301-F. The results of the tests are presented below:

RESULTS OF R-VALUE TESTS

Boring Number	Description of Material	Dry Density (pcf)	Water Content (%)	Exudation Pressure (psi)	Expansion Pressure (psf)	R-Value
B-4	Light brown SAND with clay (SP-SC)	108.2	17.5	159	17	17
		108.8	16.4	278	44	60
		112.1	15.3	326	48	68
R-Value = 65 at Exudation pressure of 300 psi						
B-5	Red brown clayey SAND (SC-CL)	110.3	16.4	191	0	14
		112.0	15.9	247	22	36
		113.7	14.8	350	79	50
R-Value = 48 at Exudation pressure of 300 psi						
B-10	Brown clayey SAND (SC)	112.9	16.5	159	0	15
		113.2	15.5	231	0	37
		115.2	14.4	358	0	60
R-Value = 51 at Exudation pressure of 300 psi						
B-11	Brown sandy CLAY (CL)	111.5	16.9	151	0	16
		113.4	15.8	223	0	35
		113.3	14.8	326	0	43
R-Value = 37 at Exudation pressure of 300 psi						
B-14	Dark brown sandy CLAY (CL)	110.1	16.7	191	0	9
		112.6	15.6	247	0	18
		115.6	14.6	509	127	51
R-Value = 26 at Exudation pressure of 300 psi						
B-15	Brown clayey SAND (SC-CL)	112.3	16.5	183	0	38
		112.2	15.4	342	48	45
		113.4	14.4	557	105	51
R-Value = 43 at Exudation pressure of 300 psi						
B-16	Brown clayey SAND (SC-CL)	112.1	16.5	191	0	15
		113.7	15.4	278	61	41
		114.8	14.4	342	96	47
R-Value = 43 at Exudation pressure of 300 psi						
B-18	Red brown clayey SAND (SC)	112.9	15.4	175	0	53
		113.1	14.9	302	0	55
		112.0	14.4	398	0	59
R-Value = 55 at Exudation pressure of 300 psi						



Key Symbol	Boring No.	Depth (Feet)	Liquid Limit	Plasticity Index	Liquidity Index	Water Content (%)	% Passing #200 Sieve	USCS
●	B-8	3.5	34	17	---	---		

ATTERBERG 1715.001.GPJ VERSION-012505.GDT 12/9/05

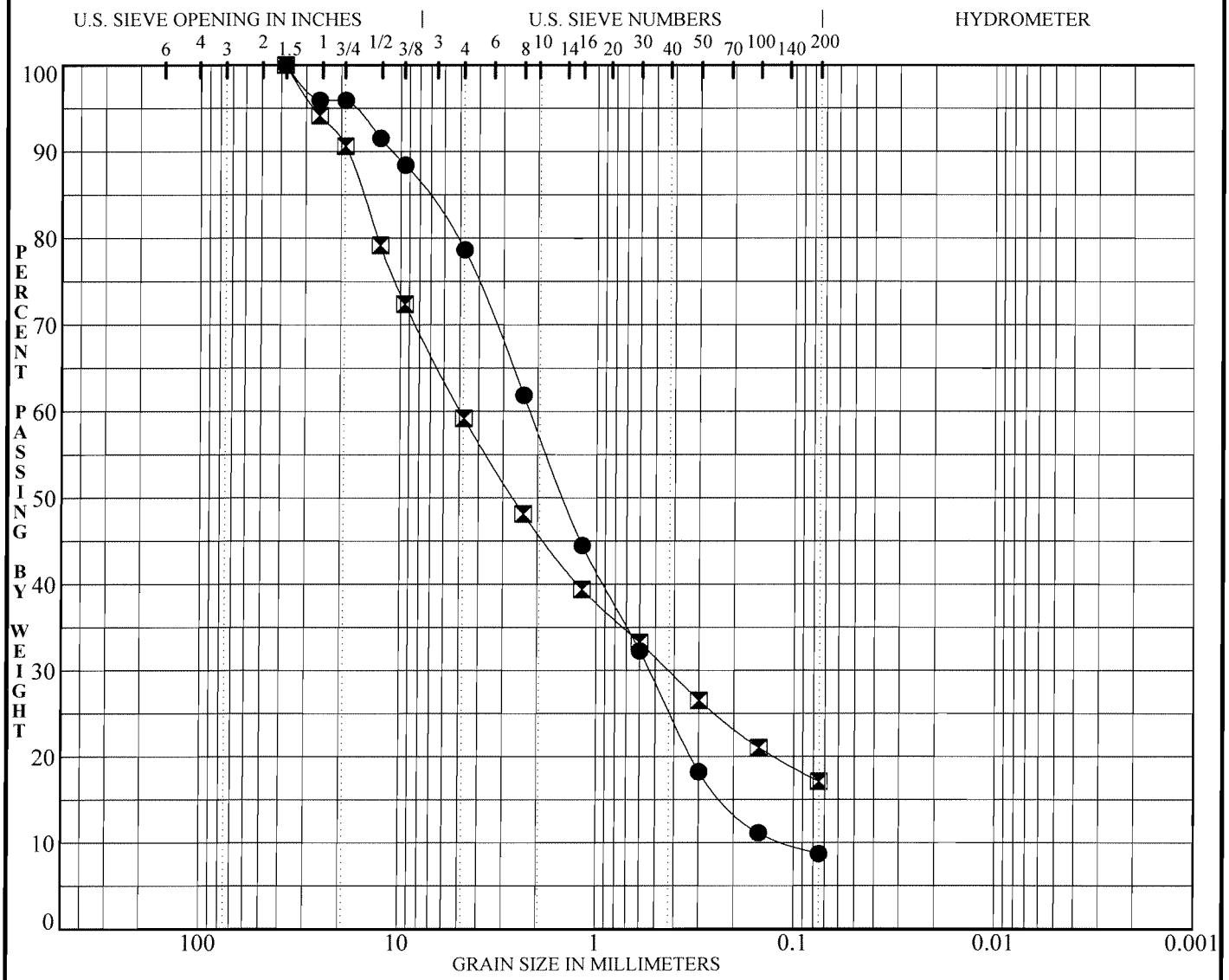
FUGRO

PREP'D BY:	
APP'D BY:	
DATE	12/9/05
DWG FILE	

PLASTICITY CHART AND DATA

COLLEGE OF MARIN, INDIAN VALLEY CAMPUS
Novato, California

FIGURE
B-1
PROJECT No.
1715.001



Cobbles	Gravel		Sand			Silt and Clay
	Coarse	Fine	Coarse	Medium	Fine	

Key Symbol	Boring No.	Depth (Feet)	% Passing No. 200 Sieve	% Passing No. 4 Sieve	Sample Descsription	USCS
●	B-12	2.5	9	79	Rust brown SAND with silt and gravel	SM-SW
⊠	B-8	29.5	17	59	Gray brown clayey SAND with gravel	SC

FUGRO

PREP'D BY:
APP'D BY:
DATE: 12/9/05
DWG FILE:

GRADATION TEST DATA

COLLEGE OF MARIN, INDIAN VALLEY CAMPUS
Novato, California

FIGURE
B-2
PROJECT No.
1715.001

GRADATION_B 1715-001 V012505.GPJ STD.GDT 12/9/05

APPENDIX C
CORROSION ANALYSIS RESULTS

California State Certified Laboratory No.2153

C E R C O
analytical, inc.

3942-A Valley Avenue
Pleasanton, CA 94566-4715
Tel: 925.462.2771
Fax: 925.462.2775

9 November, 2005

Job No.0511024
Cust. No.11608

Mr. Jon Hagen
Fugro West, Inc.
1000 Broadway, Suite 200
Oakland, CA 94607

Subject: Project No.: 1715.001
Project Name: College of Marin-Indian Valley Campus
Corrosivity Analysis – ASTM Test Methods

Dear Mr. Hagen:

Pursuant to your request, CERCO Analytical has analyzed the soil samples submitted on November 3, 2005. Based on the analytical results, a brief corrosivity evaluation is enclosed for your consideration.

Based upon the resistivity measurements, all samples are classified as "moderately corrosive". All buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron should be properly protected against corrosion depending upon the critical nature of the structure. All buried metallic pressure piping such as ductile iron firewater pipelines should be protected against corrosion.

The chloride ion concentrations range from none detected to 100 mg/kg. Because the chloride ion concentrations are less than 300 ppm, they are determined to be insufficient to attack steel embedded in a concrete mortar coating.

The sulfate ion concentrations are none detected and are determined to be insufficient to damage reinforced concrete structures and cement mortar-coated steel at these locations.

The pH of samples B2/2, B9/1 and B13/2 range from 6.6 to 7.1 which does not present corrosion problems for buried iron, steel, mortar-coated steel and reinforced concrete structures. Sample B5/1 has a pH of 5.6. Any soils with a pH of <6.0 is considered to be corrosive to buried iron, steel, mortar-coated steel and reinforced concrete structures. Therefore, corrosion prevention measures need to be considered for structures to be placed in this acidic soil.

The redox potentials range from 420 to 500-mV which is indicative of aerobic soil conditions.

This corrosivity evaluation is based on general corrosion engineering standards and is non-specific in nature. For specific design recommendations or consultation, please call ***JDH Corrosion Consultants, Inc. at (925) 927-6630.***

We appreciate the opportunity of working with you on this project. If you have any questions, or if you required further information, please do not hesitate to contact us.

Very truly yours,
CERCO ANALYTICAL, INC.

J. Darby Howard, Jr., P.E.
President

JDH/jdl
Enclosure

CERCO Analytical, Inc.

3942-A Valley Avenue, Pleasanton, CA 94566-4715 (925) 462-2771 Fax (925) 462-2775

FINAL RESULTS

Client:	Fugro West, Inc.	Date Sampled:	Not Indicated
Client's Project No.:	1715.001	Date Received:	3-Nov-2005
Client's Project Name:	College of Marin- Indian Valley Campus	Date of Report:	9-Nov-2005
Authorization:	Signed Chain of Custody	Matrix:	Soil

Job/Sample No.	Sample I.D.	Redox (mV)	pH	Conductivity (umhos/cm)*	Resistivity (100% Saturation) (ohms-cm)	Sulfide (mg/kg)*	Chloride (mg/kg)*	Sulfate (mg/kg)*
0511024-001	B2/2 @ 3-3.5'	420	6.6	-	3,600	-	29	N.D.
0511024-002	B5/1 @ 2.5-3'	480	5.6	-	2,900	-	100	N.D.
0511024-003	B9/1 @ 2.5-3'	480	7.1	-	4,500	-	16	N.D.
0511024-004	B13/2 @ 3-3.5'	500	6.6	-	6,600	-	N.D.	N.D.

Method:	ASTM D1498	ASTM D4972	ASTM D1125M	ASTM G57	ASTM D4658M	ASTM D4327	ASTM D4327
Detection Limit:	-	-	10	-	50	15	15
Date Analyzed:	4-Nov-2005	8-Nov-2005	-	8-Nov-2005	-	8-Nov-2005	8-Nov-2005

Cheryl McMillen
Laboratory Director

* Results Reported on "As Received" Basis

N.D. - None Detected

Quality Control Summary - All laboratory quality control parameters were found to be within established limits

brick.

Meeting Minutes

Date Sent: 06/13/2017

Meeting Date: 06/12/17, 11-1pm

Project: College of Marin Indian Valley Campus Jonas Center

Project No: 16-148.04

RE: Jonas Center DSA pre-application meeting

Attendee

Karen Van Dorn (KD)	DSA, Project Services	karen.vandorn@dgs.ca.gov
Kris Wen (KW)	DSA, Access	kris.wren@dgs.ca.gov
Richard Denio (RD)	DSA, Structural Safety	richard.denio@dgs.ca.gov
Chris Morton (CM)	DSA, Structural Safety	chris.morton@dgs.ca.gov
Raul Cadotte	DSA, Fire and Life Safety	raul.cadotte@dgs.ca.gov
David Mar (DM)	Mar Structural Design	david.mar@marstructuraldesign.com
Ben Mohr (BM)	Mar Structural Design	ben.mohr@marstructuraldesign.com
Matt Combrink (MC)	Brick	mcombrink@brick-inc.com
Mattison Ly (ML)	Brick	mly@brick-inc.com

PROJECT INTRODUCTION:
The Bill and Adele Jonas Center project is a joint venture project between the College of Marin and the Novato Rotary Club. The site is bound on three sides by a natural tributary creek. Site constraints are such that the renovation of Buildings 18 and 19 requires the building design stay within existing building footprint and within the 20' setback from top of bank which is governed by the Army Corp. of Engineers. The project team will confirm this with the Army Corp of Engineers.

Jonas Center (Bldg. 19) is a new banquet hall facility with support space housed in the adjacent existing Building 18. Demolition of the adjacent existing Building 20 will provide space for a new surface parking lot to serve the Jonas Center.

Building 18 is currently unoccupied and previously housed the BIS/CIS (Business Information Systems/Computer Information Services). It will include renovation to the interior space to include a new commercial kitchen, laundry room, office and conference rooms. This is a change of use, however it is not a change in risk category.

The Jonas Center (Bldg. 19, formerly a classroom bldg.) will be designed within the existing foundation. Above the existing foundation will be new building construction. The Jonas Center will have a 300 seat banquet hall, a raised platform, prep kitchen, restrooms, back of house support space as well as a new addition to the south for a lounge room.

ITEMS FOR DISCUSSION ON DSA FORM 91:

STRUCTURAL

BUILDING 18:

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Emeryville, CA 94608
510.516.0167
www.brick-inc.com

The 2016 California Existing Building Code, Section 317.3.1, specifies that that a seismic retrofit is triggered when the total construction cost of a renovation exceeds 25% of the construction cost for building replacement. What is the most appropriate method for determining the cost for building replacement?

Regarding replacement cost, Richard Denio (RD) indicated that the 2016 California Existing Building Code does not apply. He referred us to the 2016 California Administrative Code, Section 4-309. Under this provision, the trigger for a mandatory retrofit is 50% of the replacement cost.

Regarding the cost calculation, RD directed us to assume a "like for like" replacement, using a professional cost estimator. As an aside, RD indicated that it seems unlikely that the renovation cost will exceed 50% of the replacement cost.

Even though a mandatory retrofit is not likely for Building 18, RD encouraged us to perform a common sense evaluation of the building, to look for specific weaknesses. In particular, he encouraged us to evaluate the connections from the roof to the columns.

BUILDING 19:

2016 CBC, Section 1810A.1.2 specifies that existing deep foundation elements shall be load tested. What test methods are acceptable? Should we perform vertical tests, lateral, or both? We have 20 piles. 14 of them are 13’-6” deep and 6 of them are 16’-6” deep. How many piles should we test?

The existing piles are 30” diameter, with #4 spirals at 3” pitch. The original drawings specify that it is acceptable to use 40 ksi steel for this reinforcement. These are individual piles with grade beams (no pile caps).
2016 CBC 1810A.3.9.4.2.1 refers to ACI 318 18.7.5.2, 18.7.5.3 and 18.7.5.4 for reinforcing requirements. The existing piles do not meet these requirements. Is it acceptable to demonstrate performance by imposing a force at the top of the pile (using a pile-structure interaction program, such as LPILE), and checking the pile for the resulting demands (using a fiber model analysis program, such as XTRACT)? Our intent is to determine whether the piles remain essentially elastic. If the ductility demands are very modest, is the non-conforming reinforcement acceptable?

The existing grade beams do not comply with the minimum dimensions specified by ACI 318-14, Section 18.13.3. We would like to discuss strategies for connecting the existing piles to the new structure. These strategies could include removal of existing concrete to expose reinforcement, addition of HRC T-heads to the vertical bars, casting new reinforced concrete elements around the existing pile head, and constructing a new reinforced concrete slab over the existing slab on grade. We anticipate that we will need to augment the existing foundation system with new piles. Are there any special considerations related to load sharing between new and existing piles?

May we take a smaller gross concrete section for the purposes of calculating required confinement. The current cover is 3". If the cover is considered to be reduced to 2", the piers would comply with current code provisions for volumetric confinement.

<u>Load testing of existing piles</u>

RD directed us to perform monotonic vertical tests on 2 short piles and 1 long pile. He also recommended we test critical piles: for example, those close to the river, or those supporting new

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shear walls or cantilever columns. We will coordinate this with the geotechnical engineer, to see what they recommend.

Tension tests or compression tests are acceptable. The geotechnical engineer will establish a movement threshold for pile testing. A DSA special inspector is not required for this testing; the geotechnical engineer will sign off on the test methods and results. The geotechnical engineer will also perform an LPILE analysis for new and existing piles, as a part of the geotechnical report.

If we are going to use the existing piles, it will be important to model and analyze them appropriately. RD directed us to test the spiral reinforcing in the existing piles, to determine whether it is 40 ksi or 60 ksi grade steel. He also advised us to ask for original test data from the college.

The piles are not a code exception, and do not require an REH (rehabilitation) report.

Other foundation considerations

Ben Mohr (BM) asked about the volumetric confinement requirements given in ACI 318-14. Specifically, he asked if some cover concrete could be neglected per Section 10.3. RD suggested that, instead, we follow a provision of the California Building Code that requires 1/2 of the volumetric ratio.

RD advised us to neglect the existing slab on grade for our strength calculations. This is because the cost of testing the slab is probably greater than the structural benefit it would provide.

It is acceptable to use crushed concrete as gravel fill to support our new slab. However, it is not acceptable to use crushed concrete as a capillary break. RD also advised us to consider settlement; the weight of the crushed concrete could cause the existing slab on grade to yield. Possible alternatives include controlled-density fill (CDF), lean concrete, and rigid foam. David Mar (DM) suggested we perform an analysis to determine whether settlement will be an issue with the crushed concrete fill; RD indicated that this is acceptable.

Re-use of existing glu-laminated beams

Re-use of existing materials is complicated by the fact that we are only creating bridging documents. Karen Van Dorn (KVD) recommended we include this as an add/alternate.

RD directed us to test the existing glu-lams according to the comprehensive testing requirements of ASCE 41-13.

Demolition

A building permit is not required for demolition of Building 19.

Bridging Documents

As part of the bridging documents, the design team will be submitting a geotechnical report and possibly foundation testing information.

FIRE AND LIFE SAFETY

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The design team will further study whether the project will be considered as one building or two separate buildings as it relates to fire separation requirements and options.

ACCESSIBILITY

Per Section 1006.2.1.1,three means of egress are required for the banquet hall (occupancy A with 703 occ. load). Two of the exits (north and west exits) will serve as an accessible means of egress and are continuous to the public way. The third exit (east exit), exits to an exterior space that does not have an accessible route to the public way. The site is bound by two creeks on the northern and eastern edge of the building. The east exit provides an exit to an exterior open area bound by the two creeks. The open area is approx. 65'x50' of open area adjacent to the building. We propose to use this open area as the exterior area for assisted rescue. Is this acceptable?

The occupancy load for the banquet hall is such that three means of egress will be required. ML noted that the new fourth exit to the east is an extra exit and is not needed to meet the required means of egress, therefore the question above is no longer necessary. KW noted that the required means of egress will need to have accessible path of travel to the public way which appears to be provided.

KW pointed out that an accessible walk aisle is needed adjacent to the accessible parking stalls. The accessible walk aisles need to be located such that they do not require a person to traverse the drive aisle to access the accessible walk aisle. The design team will make the revision to the site plan.

KW noted that the drop-off area will require a 20' clear drive aisle, in addition to a 10' clear width for the passenger drop-off zone. A level area will also be required. KW asked the design team to check the amount of required parking stalls. An accessible path of travel is required from the new parking lot at the Jonas Center as well as from the main parking lot (Lot 4 &5) to Jonas Center. MC mentioned that a potential future foot bridge may be provided linking the pedestrians from parking Lot 4 more directly to the Jonas Center. If one is provided, it will be designed to meet accessibility requirements.

ATTACHMENTS (pdf):

DSA form 91
17.06.12 Jonas Center_MAR structural sketches
2017-06-09_ivc_jonas center_perspectives
2017-06-12ivc_jonas cener_dsa pre-app. Mtg._drawings

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DSA 91

PRE-APPLICATION MEETING REQUEST

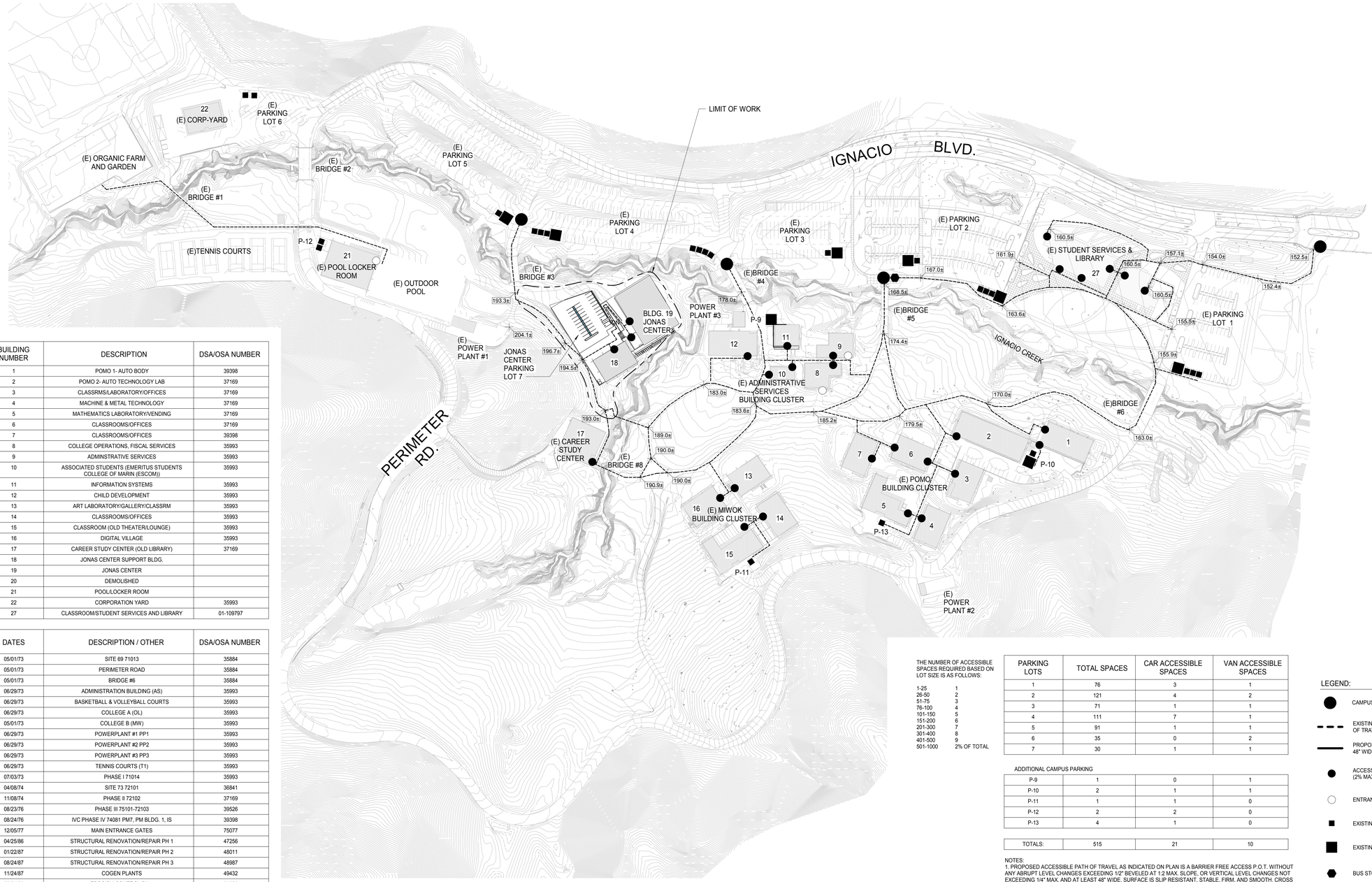
OAKLAND REGIONAL OFFICE

This form must be completed to request a pre-application meeting with Division of the State Architect (DSA) Oakland. A pre-application meeting is not intended to be a preliminary review. The intent is for DSA staff to provide answers and clarification to specific questions from applicants regarding DSA procedures, code interpretations, unique site or geological conditions, new or untested structural systems or materials, unique structural applications, or other concerns that may require resolution before submittal of the project to DSA. The information you provide below will allow DSA to properly prepare staff for the meeting and answer questions as accurately as possible. Meetings are scheduled to last no longer than one hour. Meeting discussions will be limited to the scope of the questions attached to this form. Questions should be focused and as specific as possible.

Applicant is required to submit meeting minutes to all participants within one week.

Upon receipt of this meeting request form, DSA will email a list of available dates and times for the pre-application meeting.

EMAIL INSTRUCTIONS: Complete Fields 1 10 and List Items for Discussion" on Page 2.	
1. Architectural Firm: Brick.	
2. Project Architect: Mattison Ly	Contact #: (510) 488-6727
3. Email Address: mly@brick-inc.com	
4. School District: Marin Community College District	
5. Project Name: College of Marin Indian Valley Campus Jonas Center	
6. Project Description: Bldg. 19 (Jonas Center) - demolition of existing bldg. Reuse of existing foundation for new banquet hall bldg. Bldg. 18 - renovation of the existing Bldg. 18 will include demolition of the existing interior non-loading bearing partitions, reconfiguring the interior layout, and replacement of existing windows. Bldg. 18 will serve as support space to Jonas Center (commercial kitchen, laundry room, storage, office and meeting rooms).	
7. Estimated Cost of Construction: $ 13,100,000.00	
8. Approximate Submittal Date:	
9. Meeting Request Date(s) & Time(s): June 12th 11am	
10. Provide an attached list of specific questions in the following four categories: A. DSA processing B. Structural C. Fire Life Safety D. Accessibility	



BUILDING NUMBER	DESCRIPTION	DSA/OSA NUMBER
1	POMO 1- AUTO BODY	39398
2	POMO 2- AUTO TECHNOLOGY LAB	37169
3	CLASSRMS/LABORATORY/OFFICES	37169
4	MACHINE & METAL TECHNOLOGY	37169
5	MATHEMATICS LABORATORY/VENDING	37169
6	CLASSROOMS/OFFICES	37169
7	CLASSROOMS/OFFICES	39398
8	COLLEGE OPERATIONS, FISCAL SERVICES	35993
9	ADMINSTRATIVE SERVICES	35993
10	ASSOCIATED STUDENTS (EMERITUS STUDENTS COLLEGE OF MARIN (ESCOM))	35993
11	INFORMATION SYSTEMS	35993
12	CHILD DEVELOPMENT	35993
13	ART LABORATORY/GALLERY/CLASSRM	35993
14	CLASSROOMS/OFFICES	35993
15	CLASSROOM (OLD THEATER/LOUNGE)	35993
16	DIGITAL VILLAGE	35993
17	CAREER STUDY CENTER (OLD LIBRARY)	37169
18	JONAS CENTER SUPPORT BLDG.	
19	JONAS CENTER	
20	DEMOLISHED	
21	POOL/LOCKER ROOM	
22	CORPORATION YARD	35993
27	CLASSROOM/STUDENT SERVICES AND LIBRARY	01-109797

DATES	DESCRIPTION / OTHER	DSA/OSA NUMBER
05/01/73	SITE 69 71013	35884
05/01/73	PERIMETER ROAD	35884
05/01/73	BRIDGE #6	35884
06/29/73	ADMINISTRATION BUILDING (AS)	35993
06/29/73	BASKETBALL & VOLLEYBALL COURTS	35993
06/29/73	COLLEGE A (OL)	35993
05/01/73	COLLEGE B (MW)	35993
06/29/73	POWERPLANT #1 PP1	35993
06/29/73	POWERPLANT #2 PP2	35993
06/29/73	POWERPLANT #3 PP3	35993
06/29/73	TENNIS COURTS (T1)	35993
07/03/73	PHASE I 71014	35993
04/08/74	SITE 73 72101	36841
11/08/74	PHASE II 72102	37169
08/23/76	PHASE III 75101-72103	39526
08/24/76	IVC PHASE IV 74081 PM7, PM BLDG. 1, IS	39398
12/05/77	MAIN ENTRANCE GATES	75077
04/25/86	STRUCTURAL RENOVATION/REPAIR PH 1	47256
01/22/87	STRUCTURAL RENOVATION/REPAIR PH 2	48011
08/24/87	STRUCTURAL RENOVATION/REPAIR PH 3	48987
11/24/87	COGEN PLANTS	49432
06/24/89	EROSION CONTROL PH 1	51009
09/22/94	AUTO LIFT INSTALLATION	61309
07/02/95	IVC ATHLETIC FIELDS CITY OF NOVATO	64855
07/01/96	AUTO SHOP HEATING SYSTEM	65312
03/24/99	AUTO BODY SHOP HEATING SYSTEM	101371
10/01/99	INFANT TODDLER CENTER	101253
10/12/99	POOL SYSTEM MODERNIZATION	102000
02/14/02	ASPHALT UPGRADES	104299
	JONAS CENTER PARKING LOT 7	

DSA TABULATION 1/8" = 1'-0"

THE NUMBER OF ACCESSIBLE SPACES REQUIRED BASED ON LOT SIZE IS AS FOLLOWS:

1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2% OF TOTAL

PARKING LOTS	TOTAL SPACES	CAR ACCESSIBLE SPACES	VAN ACCESSIBLE SPACES
1	76	3	1
2	121	4	2
3	71	1	1
4	111	7	1
5	91	1	1
6	35	0	2
7	30	1	1

ADDITIONAL CAMPUS PARKING

P-9	1	0	1
P-10	2	1	1
P-11	1	1	0
P-12	2	2	0
P-13	4	1	0
TOTALS:	515	21	10

NOTES:
1. PROPOSED ACCESSIBLE PATH OF TRAVEL AS INDICATED ON PLAN IS A BARRIER FREE ACCESS P.O.T. WITHOUT ANY ABRUPT LEVEL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAX. SLOPE, OR VERTICAL LEVEL CHANGES NOT EXCEEDING 1/4" MAX. AND AT LEAST 48" WIDE. SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. CROSS SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. P.O.T. SHALL MAINTAIN FREE OF OVERHANGING OBSTRUCTIONS TO MINIMUM 80" (11B-307.4) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.2)

2. ALL BUILDING ENTRANCES / EXITS ALONG THE INDICATED PROPOSED PATH OF TRAVEL ARE ACCESSIBLE UNLESS OTHERWISE NOTED.

3. EXISTING ACCESSIBLE PARKING, ENTRANCES, AND PATHS OF TRAVEL ARE SHOWN ACCORDING TO INFORMATION PROVIDED BY THE COLLEGE OF MARIN.

4. INFORMATION ON PROPOSED ACCESSIBLE PARKING, ENTRANCES, AND PATHS OF TRAVEL WITHIN WORK LIMIT OF PROJECTS OTHER THAN THAT CONTAINED IN THIS SUBMITTAL ARE PROVIDED BY THE COLLEGE OF MARIN AND NOT VERIFIED BY THE ARCHITECT.

LEGEND:

- CAMPUS ENTRANCE
- EXISTING DESIGNATED ACCESSIBLE PATH OF TRAVEL
- PROPOSED ACCESSIBLE PATH OF TRAVEL, 48" WIDE MIN, SLOPE <5%
- ACCESSIBLE BUILDING ENTRANCE (2% MAX SLOPE TO DOOR)
- ENTRANCE
- EXISTING ACCESSIBLE PARKING SPACE
- EXISTING ACCESSIBLE VAN PARKING SPACE
- BUS STOP
- PASSENGER DROP OFF
- 174.4± SPOT ELEVATION

PARKING TABULATION 1/8" = 1'-0"

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file: C:\Users\jbrandt.BRICK\Documents\16-148.04 ivc jonas center - CENTRAL_jbrandt.rvt

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510.516.016
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CLIENT
marin community college district
835 college avenue
kentfield, ca 94904

NOT FOR CONSTRUCTION

rev	date	issue
	03/24/17	100%DD/PRICING

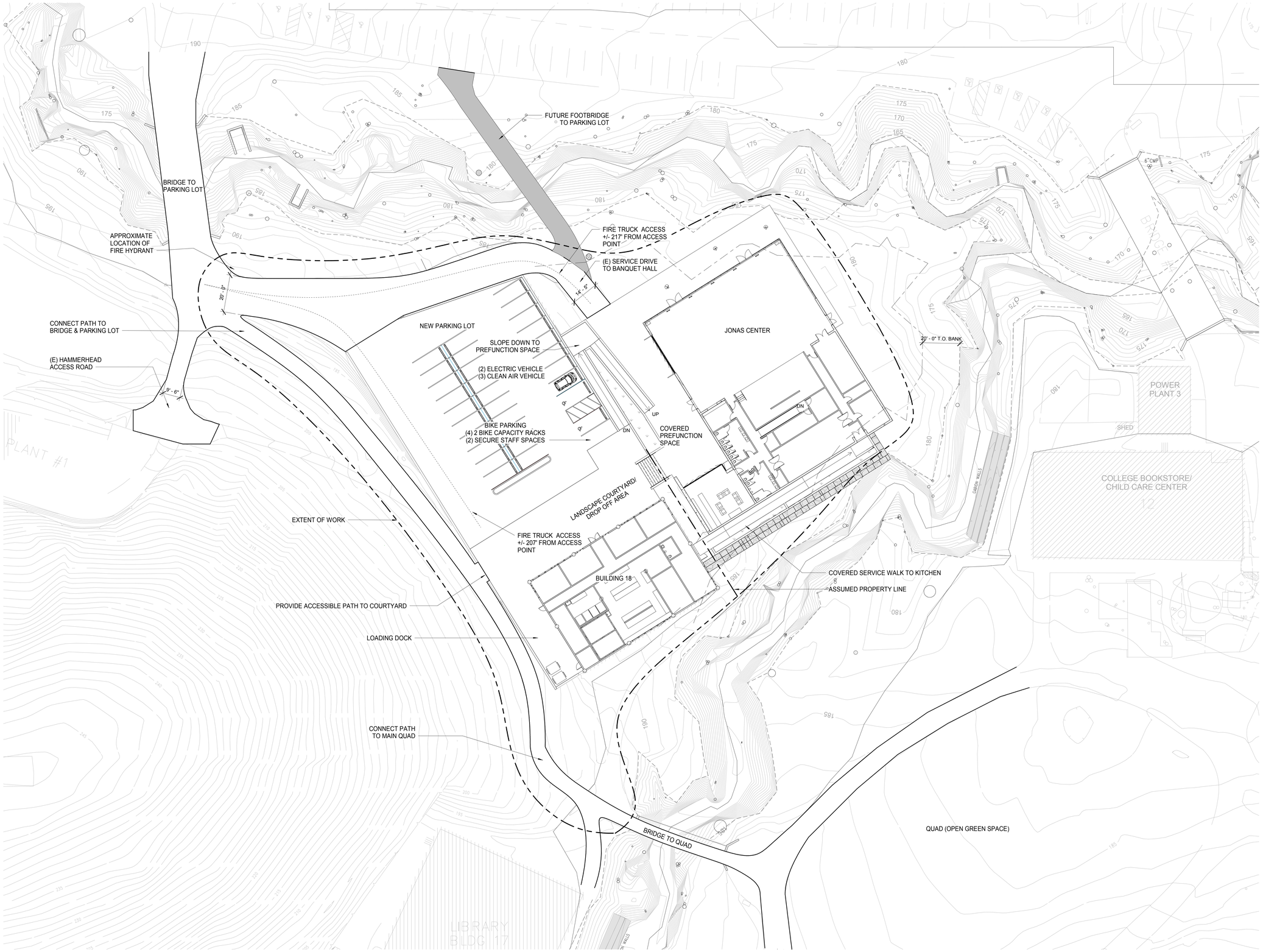
IVC JONAS CENTER & BLDG 18 ALTERATIONS

indian valley campus, novato ca
project number: 16-148.04
plot date: 6/9/2017 4:55:39 PM

scale: as noted
date: XX/XX/XX

SITE ACCESSIBILITY PLAN

A1.0



1 JONAS CENTER SITE PLAN
1" = 20'-0"

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rev	date	issue
	03/24/17	100%DD/PRICING

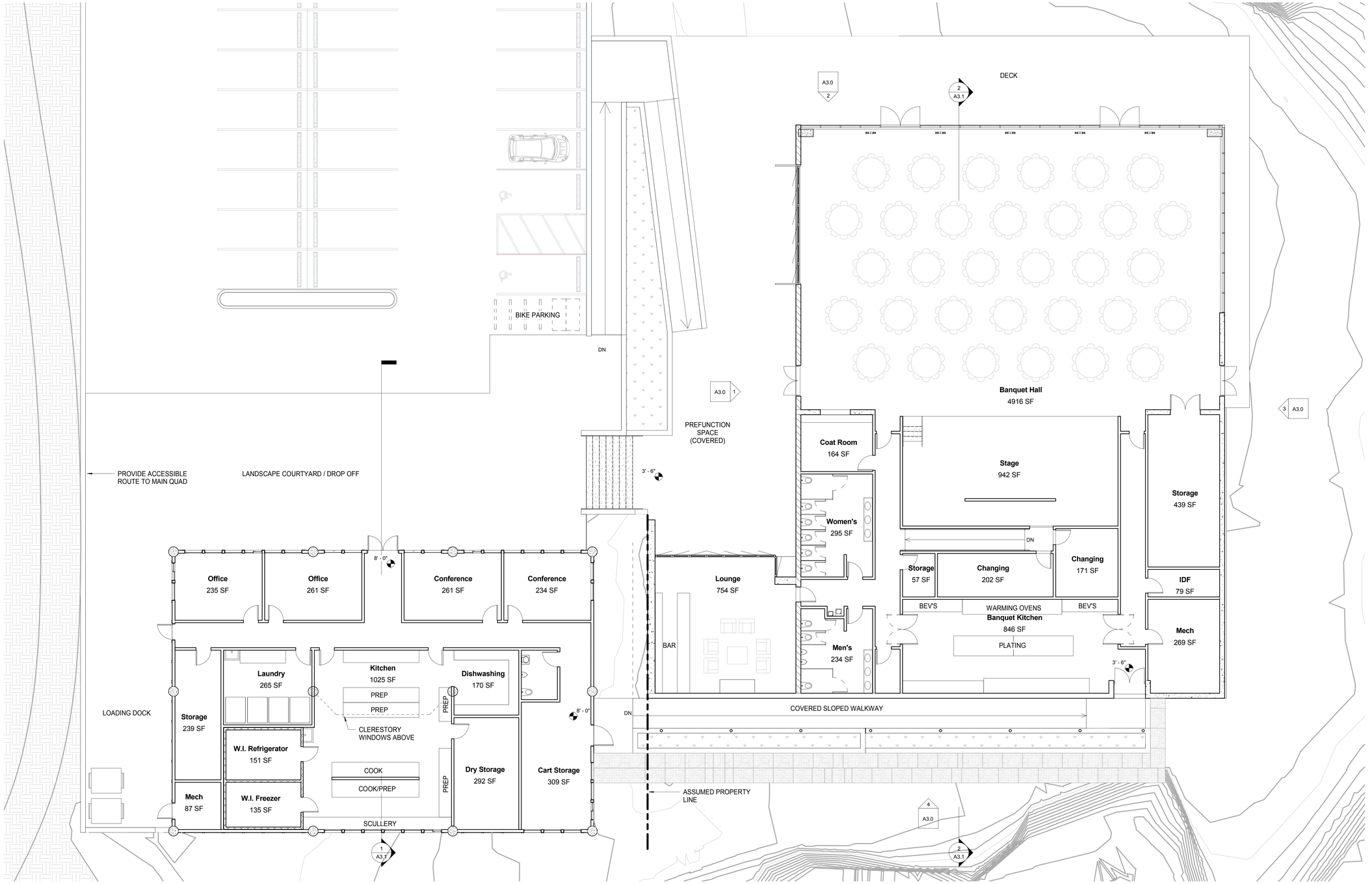
IVC JONAS CENTER & BLDG 18 ALTERATIONS

indian valley campus, novato ca
project number: 16-148.04
plot date: 6/9/2017 4:55:41 PM

scale: as noted
date: XX/XX/XX

SITE PLAN

A1.1



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1 L2 - BLDG 18 +187.15 V2

1/8" = 1'-0"

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510.516.016
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CLIENT
marin community college
district
835 college avenue
kentfield, ca 94904

NOT FOR CONSTRUCTION

rev	date	issue
	03/24/17	100%DD/PRICING

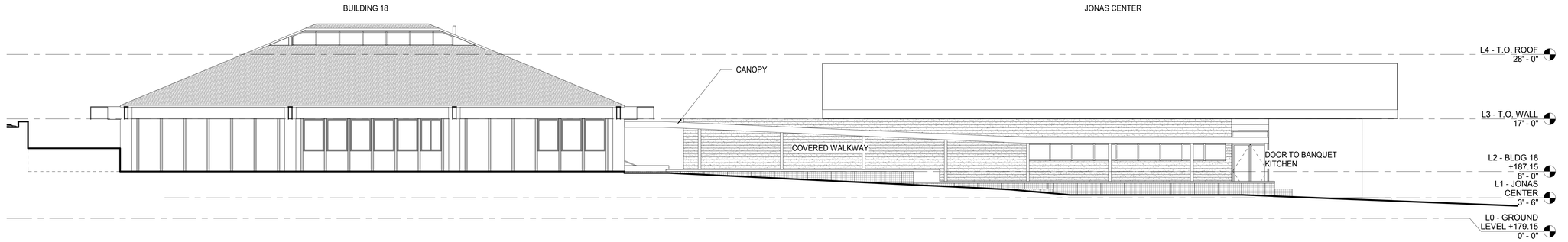
IVC JONAS CENTER & BLDG 18 ALTERATIONS

indian valley campus, novato ca
project number: 16-148.04
plot date: 6/9/2017 4:55:43 PM

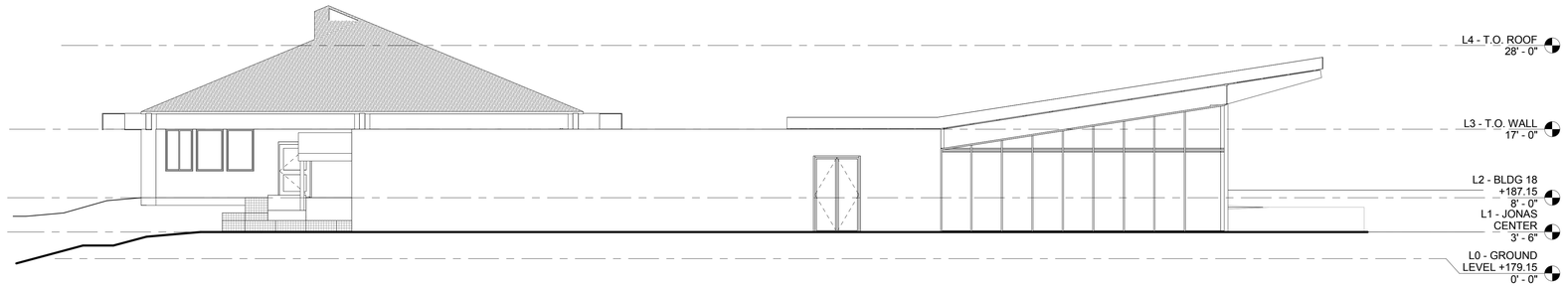
scale: as noted
date: XX/XX/XX

FLOOR PLAN

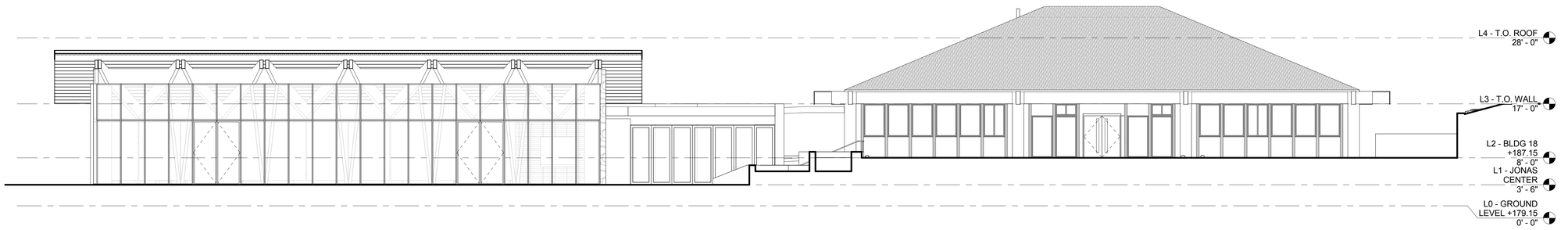
A2.0



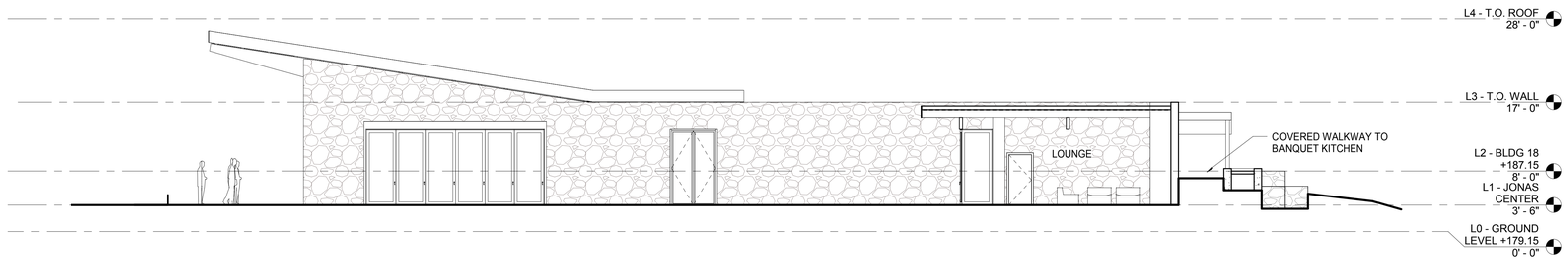
4 ELEVATION EAST 1/8" = 1'-0"



3 ELEVATION NORTH 1/8" = 1'-0"



2 ELEVATION WEST 1/8" = 1'-0"



1 ELEVATION SOUTH 1/8" = 1'-0"

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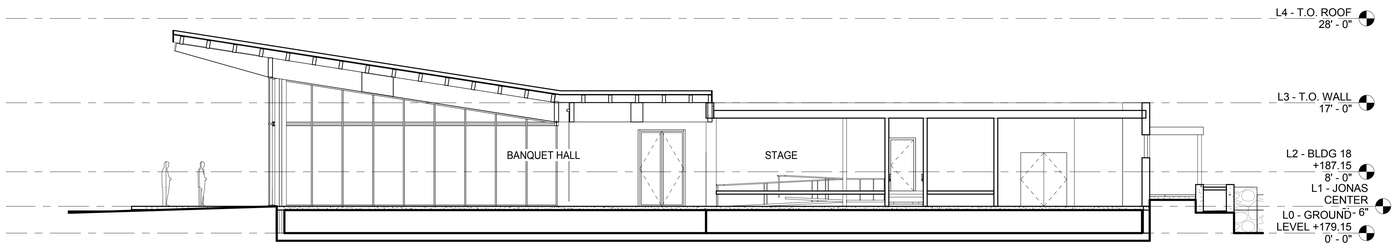
IVC JONAS CENTER & BLDG 18 ALTERATIONS

indian valley campus, novato ca
project number: 16-148.04
plot date: 6/9/2017 4:55:50 PM

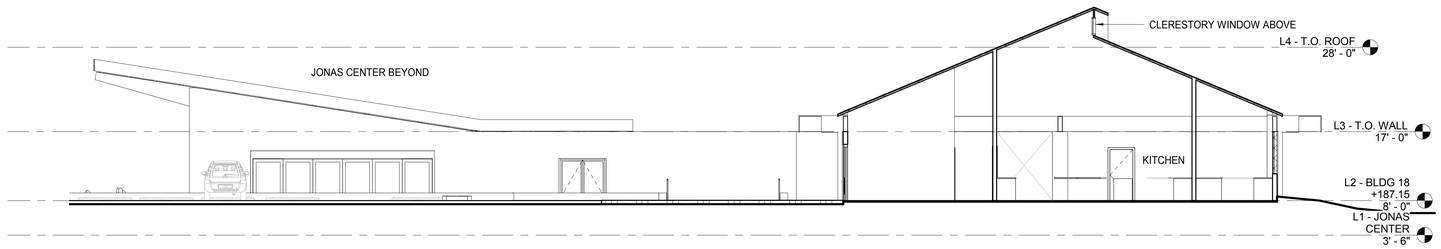
scale: as noted
date: XX/XX/XX

ELEVATIONS

A3.0



2 SECTION AT STAGE 1/8" = 1'-0"



1 SECTION AT BLDG 18 1/8" = 1'-0"

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indian valley campus, novato ca

project number: 16-148.04
plot date: 6/9/2017 4:55:53 PM

scale: as noted
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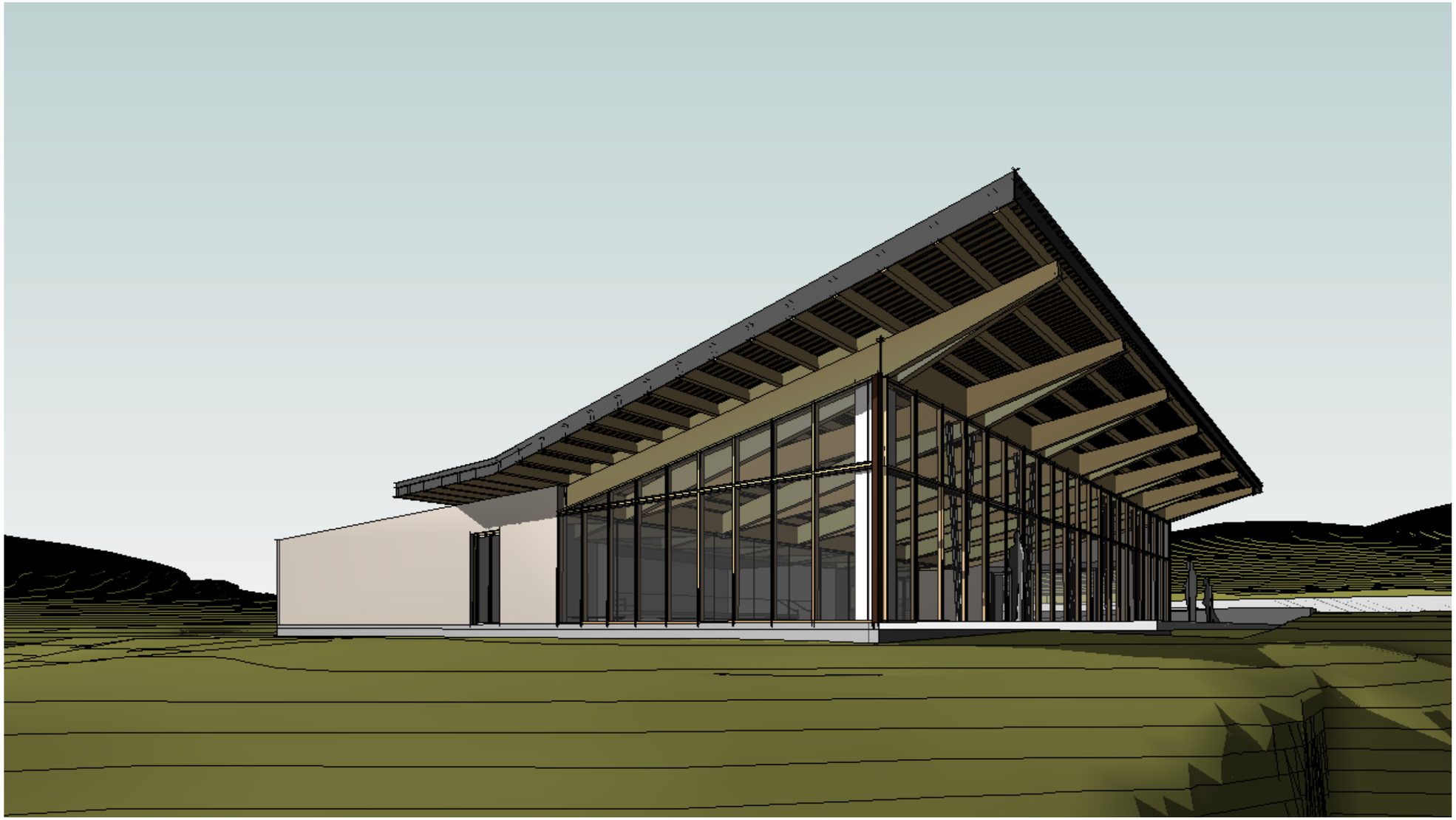
SECTIONS

A3.1



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view from creek
06/08/17

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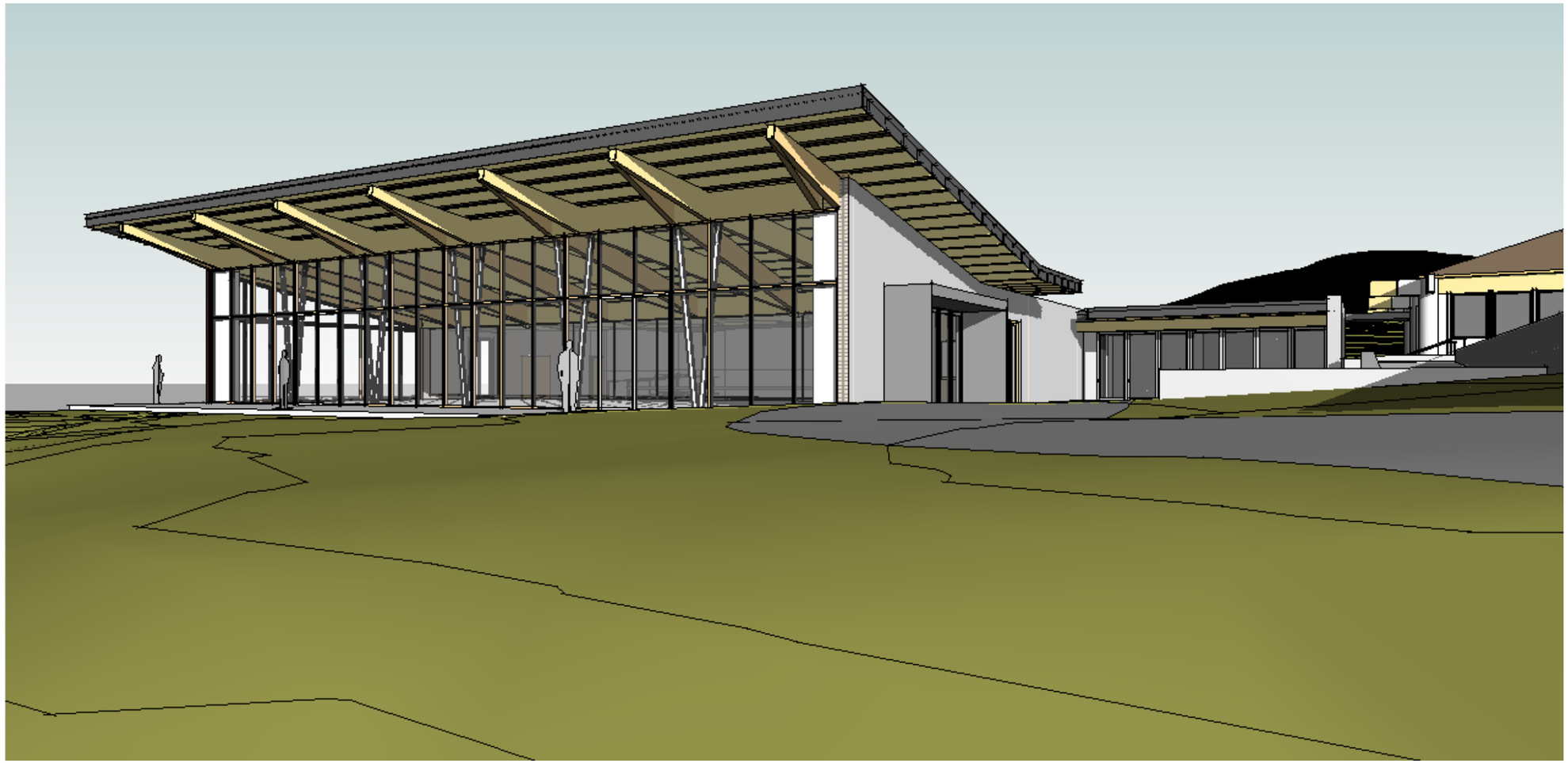

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indian valley campus, novato ca

view from west
06/08/17

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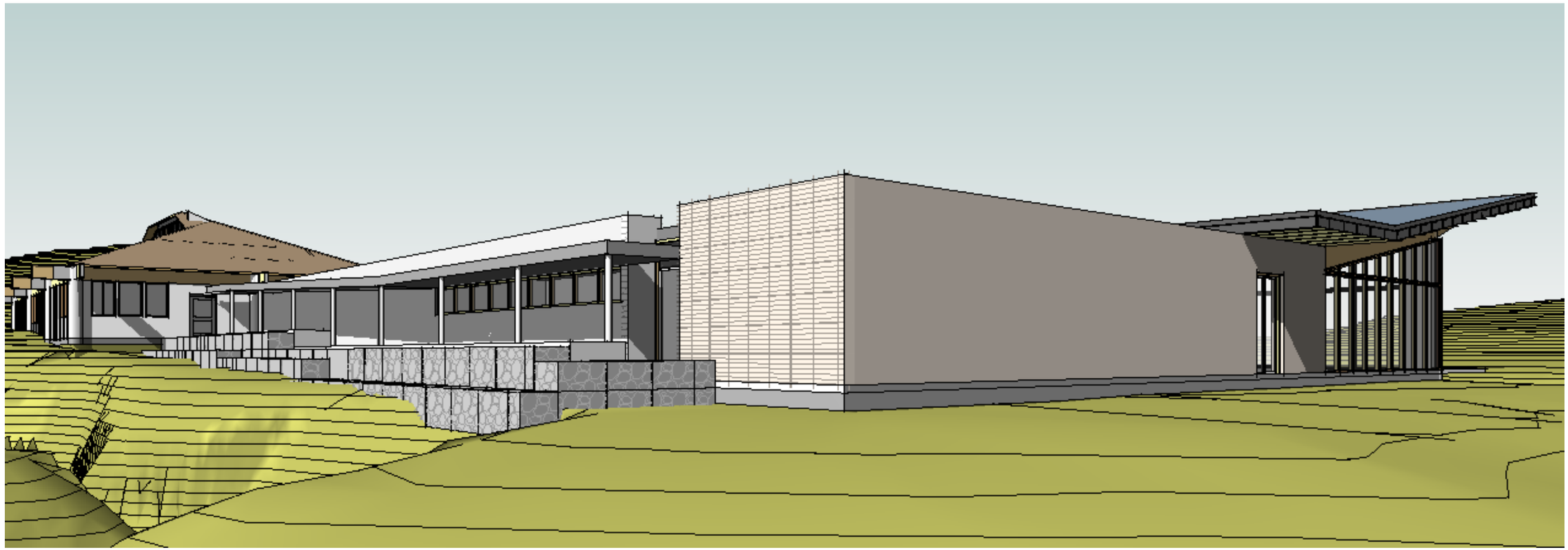

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IVC JONAS CENTER & BLDG 18 ALTERATIONS

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view from quad
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IVC JONAS CENTER & BLDG 18 ALTERATIONS

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interior
06/08/17

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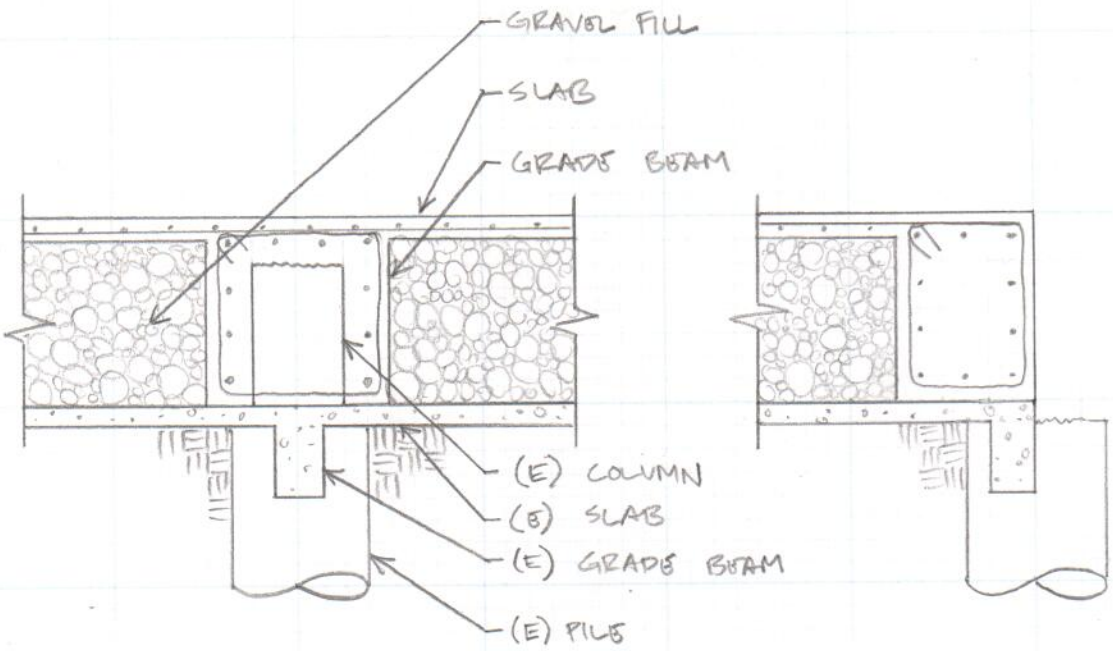
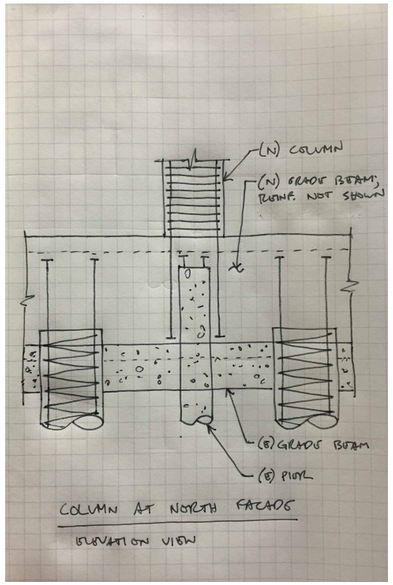
Mar
Structural Design

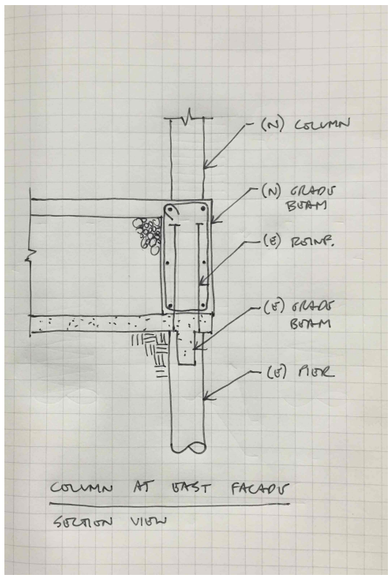
Project Name: JONAS CENTER	Page: 1 of 1
Project Number: 17016	
By: BAM	Date: 5/23/2017

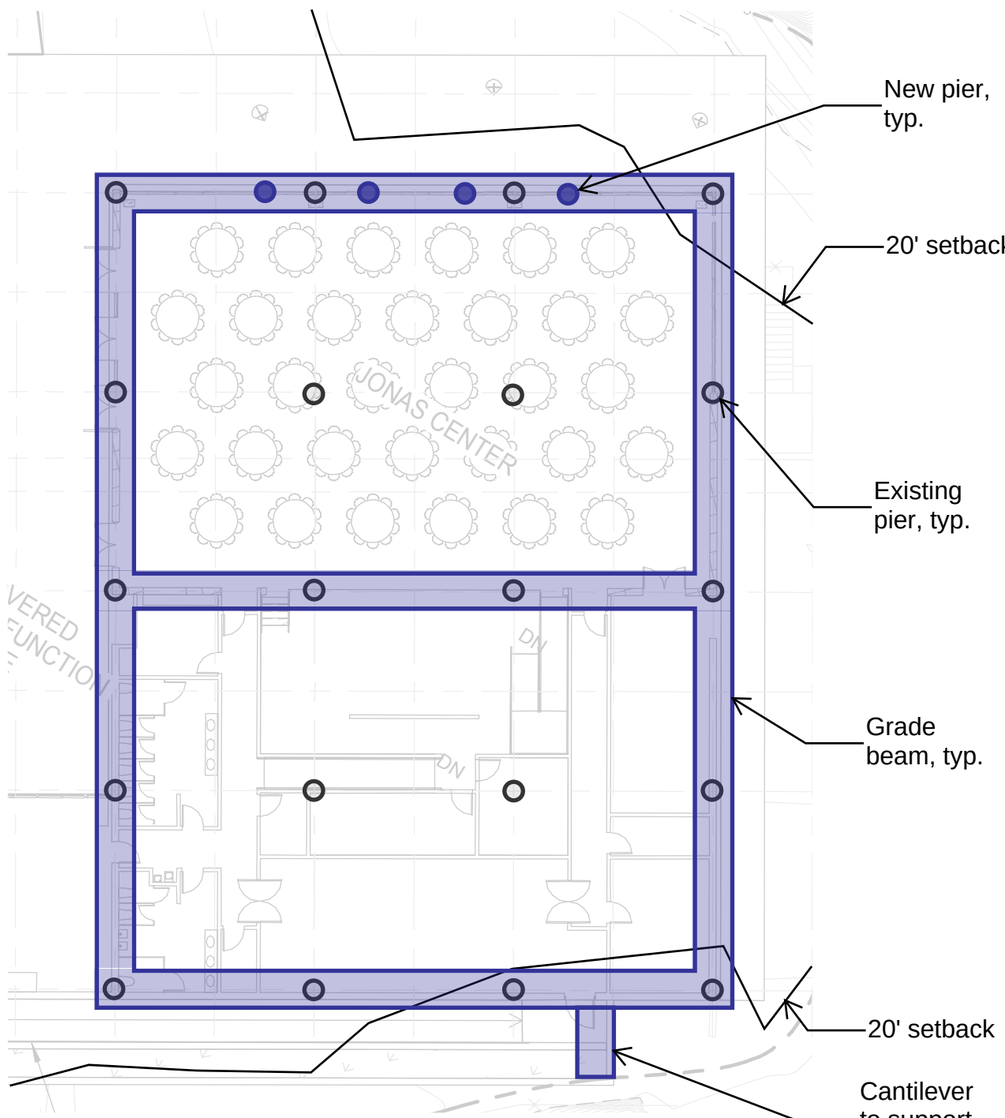


INTERIOR CONDITION

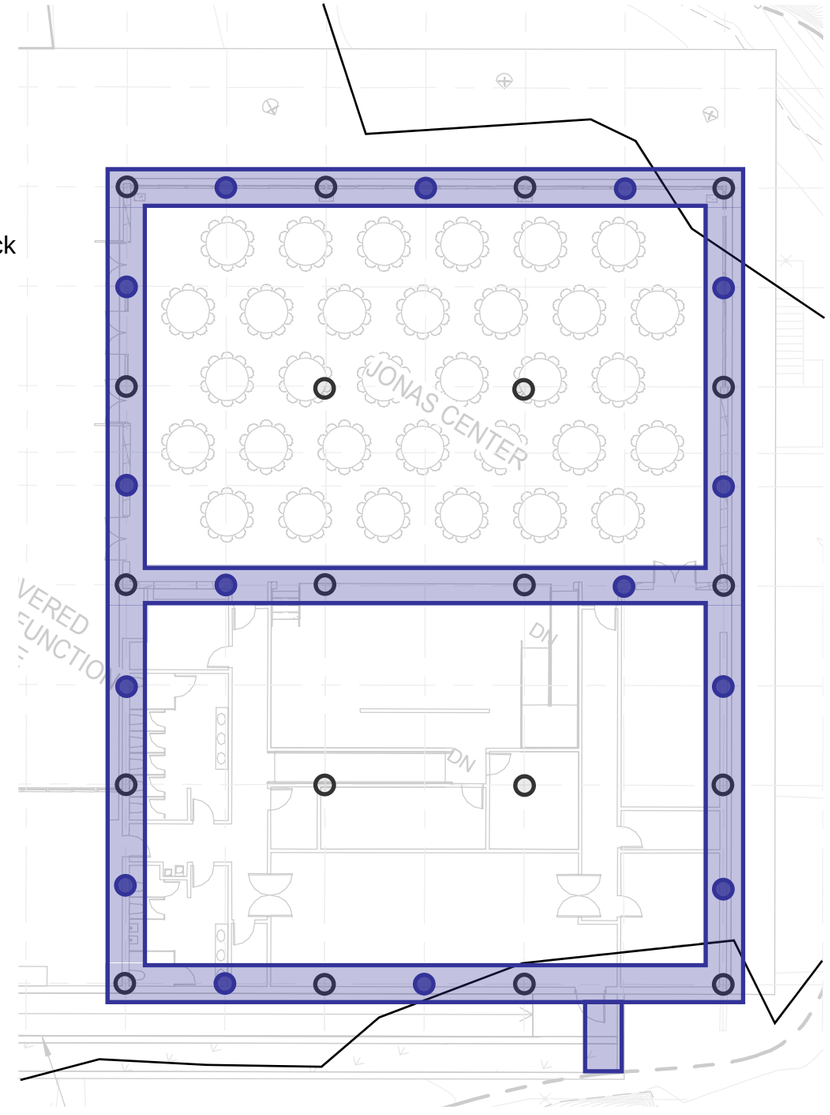
EDGE CONDITION







Augment existing piers



Abandon existing piers

Mar
Structural Design

Project Name:	Jonas Center
Project Number:	2017,016
By:	BAM

Check existing piles per 2016 DSA requirements

f'_c =	3000	psi	See original structural detail A/B
f_{yt} =	40000	psi	See original structural detail A/B
d =	30	in	pile diameter
cover =	3	in	

2016 CBC 1810A.2.4.1

Longitudinal reinforcement ratio

A_c =	706.5	in^2	
n	4	bars	
#	10		
d_b =	1.27	in^2	bar diameter
A_b =	1.27	in^2	bar area
A_s =	5.08	in^2	
ρ =	0.007		A_s/A_c
ρ_{min} =	0.005		

OK

2016 CBC 1810A.3.9.4.2 (p. 188)

Check spacing

$12d_b$ =	15.24	in	
0.5*d =	15	in	
s_{min} =	12	in	minimum spacing (outside transverse confinement regions)
s =	3	in	

OK

Transverse confinement per ACI 318-14

18.7.5.3

d/4 =	7.50	in	
$6*d_b$ =	7.62	in	
h_x =	24	in	
s_o =	4.00	in	
s_{max} =	4.00	in	
s =	3	in	spacing provided; see original structural detail A/16

OK

18.7.5.4

k_f =	0.72		
A_g =	706.5	in^2	
A_{ch} =	452.2	in^2	
$0.3*A_g*f'_c$ =	635.9	k	
P_u =	100	k	
$\rho_{s\ req}$ =	0.019		Equation d
$\rho_{s\ req}$ =	0.009		Equation e
$\rho_{s\ req}$ =	0.001		Equation f
$\rho_{s\ req}$ =	**0.019**		**Reinforcement ratio required at bottom of pile cap**
$\rho_{s\ req}$ / 2 =	**0.009**		**Reinforcement ratio required for deep foundation elements**
#	4		tie size
A_{tie} =	0.2	in^2	
d_{tie} =	0.5	in	
l_{tie} =	75.9	in	length of single tie
v_{tie} =	15.2	in^3	volume of single tie
v_{onc} =	2104	in^3	corresponding volume of concrete
ρ_s =	**0.007**		**volumetric ratio of reinforcement**

NG

Check existing grade beams per 2016 DSA requirements

2016 CBC 1810A.3.1.12

ACI 318-14 18.13.3

s =	28	ft	clear spacing between columns
s/20 =	16.8	in	
b_{min} =	16.8	in	
b =	12	in	smallest grade beam dimension

NG

Note: Seismic ties can be provided within the slab on grade per 1810A.3.13

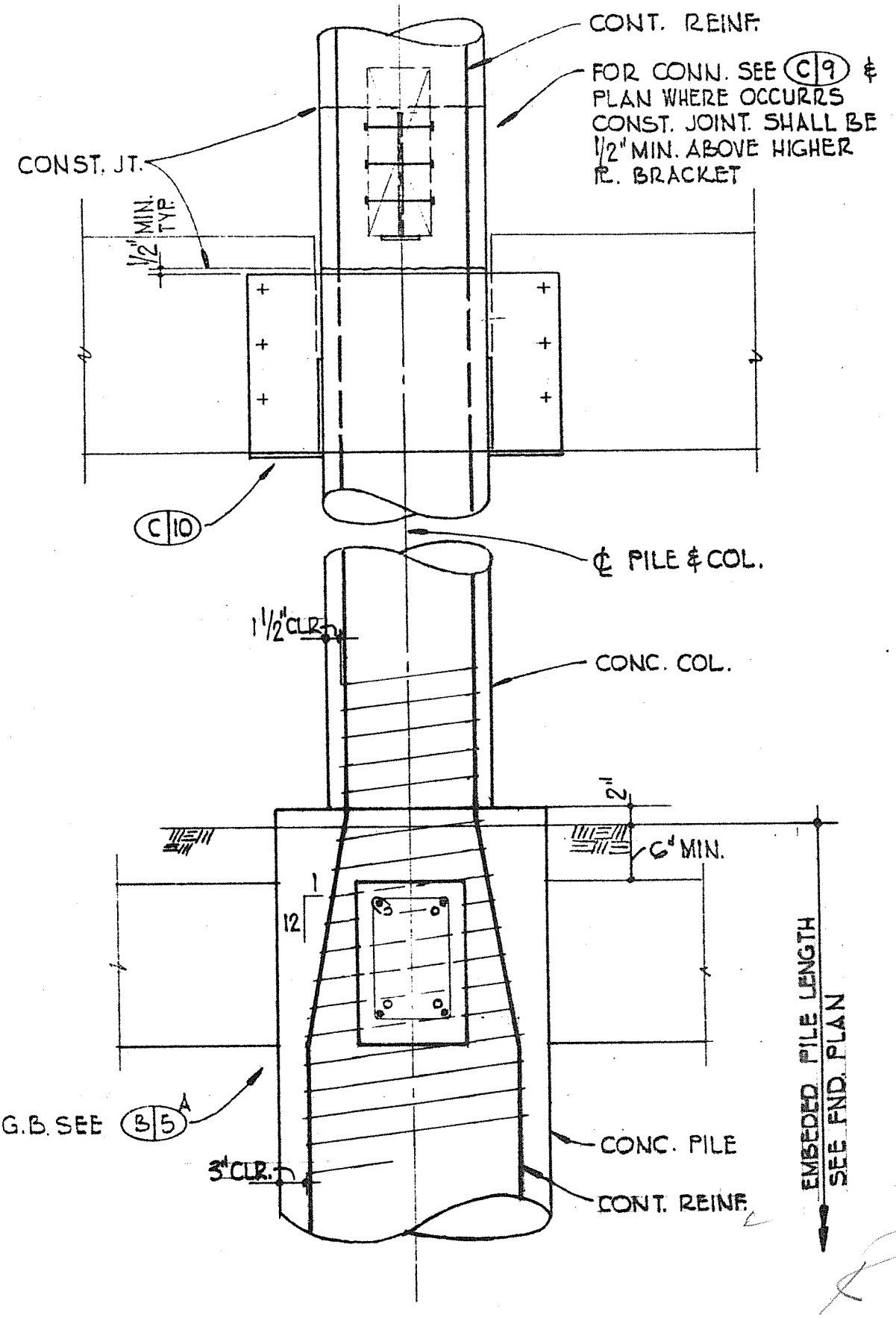
Check existing slab on grade

ACI 318-14 24.4

From original drawings, slab reinforcement consists of welded wire fabric, 6x6x10/10.

diameter =	0.134	in
area =	0.014	in^2
slab thickness =	4	in
area of concrete =	24	in^2
ρ =	0.0006	
ρ_{min} =	0.0018	

NG



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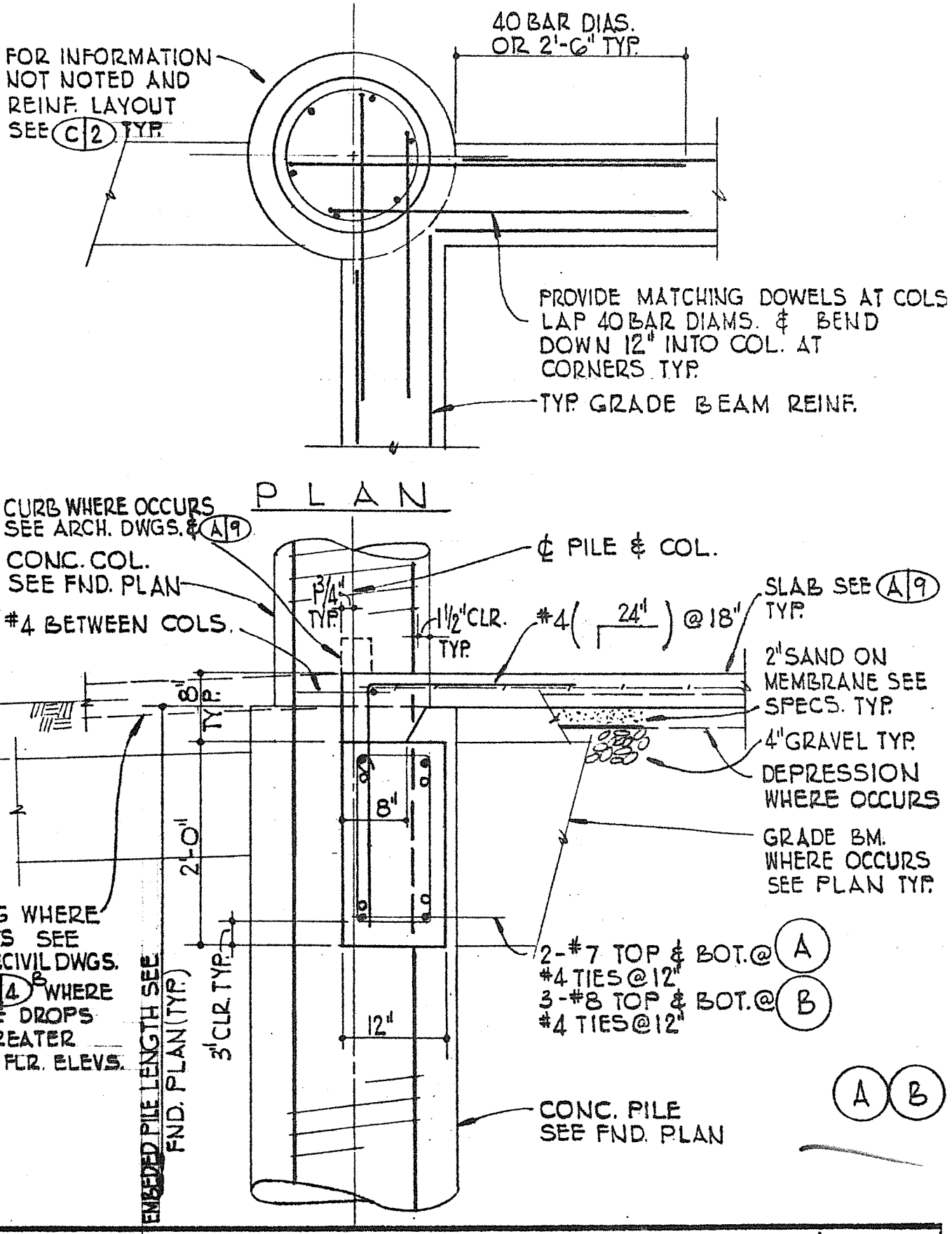
PASADENA, CALIFORNIA 91105

DETAIL

INDIAN VALLEY COLLEGES
NOVATO CALIFORNIA
MARIN COMMUNITY COLLEGE DISTRICT

JOB: 71014
DATE: 6-29-73
B|6



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DETAILS

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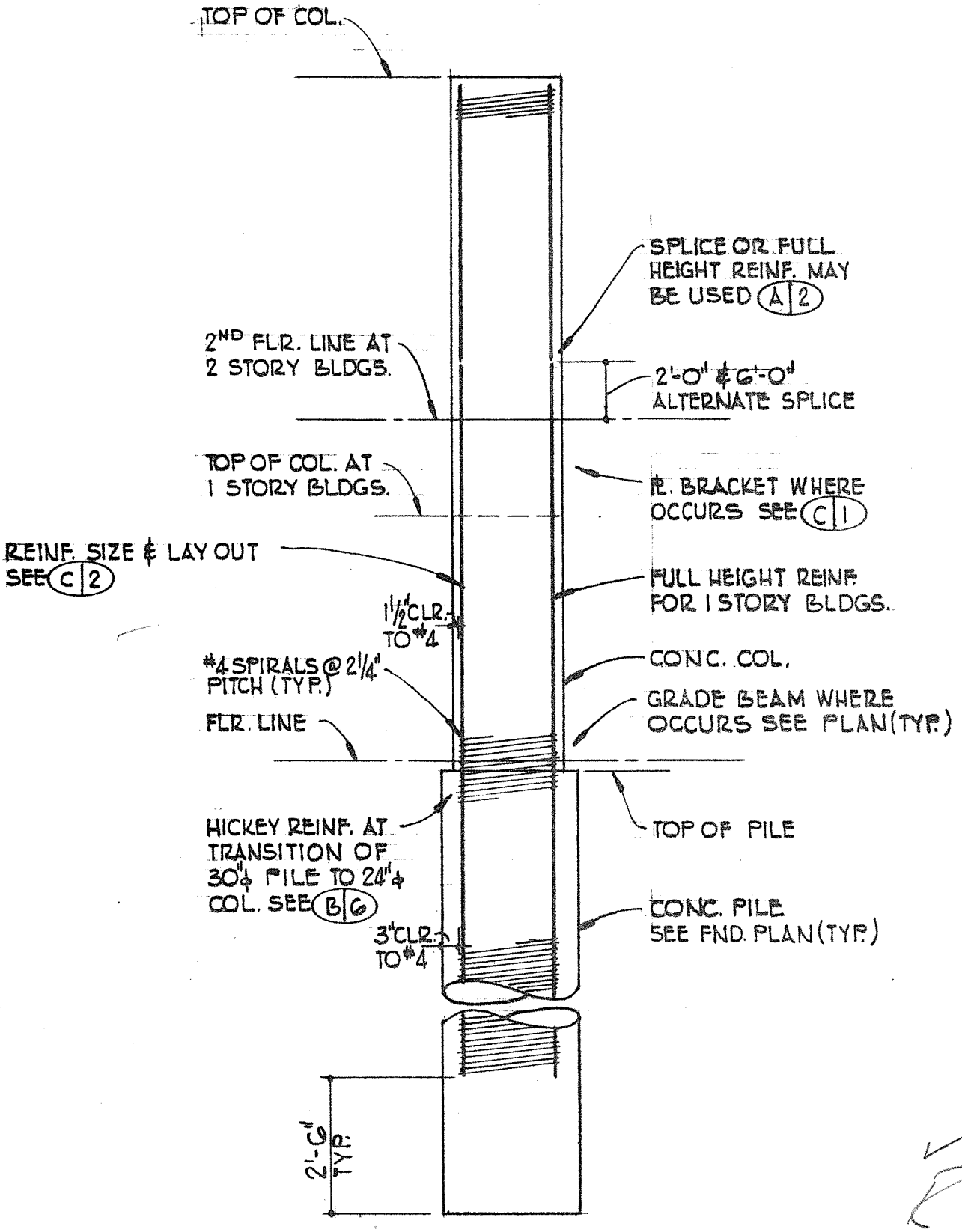
MARIN COMMUNITY COLLEGE DISTRICT

DATE: 6-29-73

B|1



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TYP PILE DETAIL

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NOVATO CALIFORNIA
MARIN COMMUNITY COLLEGE DISTRICT

JOB: 71014
DATE: 6-29-73
A|16

PRE-APPLICATION MEETING REQUEST

ITEMS FOR DISCUSSION:

B. STRUCTURAL

BUILDING 18:
The 2016 California Existing Building Code, Section 317.3.1, specifies that that a seismic retrofit is triggered when the total construction cost of a renovation exceeds 25% of the construction cost for building replacement. What is the most appropriate method for determining the cost for building replacement?

BUILDING 19:
2016 CBC, Section 1810A.1.2 specifies that existing deep foundation elements shall be load tested. What test methods are acceptable? Should we perform vertical tests, lateral, or both?
We have 20 piles. 14 of them are 13'-6" deep and 6 of them are 16'-6" deep. How many piles should we test?

The existing piles are 30" diameter, with #4 spirals at 3" pitch. The original drawings specify that it is acceptable to use 40 ksi steel for this reinforcement. These are individual piles with grade beams (no pile caps).
2016 CBC 1810A.3.9.4.2.1 refers to ACI 318 18.7.5.2, 18.7.5.3 and 18.7.5.4 for reinforcing requirements. The existing piles do not meet these requirements. Is it acceptable to demonstrate performance by imposing a force at the top of the pile (using a pile-structure interaction program, such as LPILE), and checking the pile for the resulting demands (using a fiber model analysis program, such as XTRACT)? Our intent is to determine whether the piles remain essentially elastic. If the ductility demands are very modest, is the non-conforming reinforcement acceptable?
The existing grade beams do not comply with the minimum dimensions specified by ACI 318-14, Section 18.13.3. We would like to discuss strategies for connecting the existing piles to the new structure. These strategies could including removal of existing concrete to expose reinforcement, addition of HRC T-heads to the vertical bars, casting new reinforced concrete elements around the existing pile head, and

PRE-APPLICATION MEETING REQUEST

ITEMS FOR DISCUSSION (Continued):

constructing a new reinforced concrete slab over the existing slab on grade.We anticipate that we will need to augment the existing foundation system with new piles. Are there any special considerations related to load sharing between new and existing piles?

May we take a smaller gross concrete section for the purposes of calculating required confinement. The current cover is 3". If the cover is considered to be reduced to 2", the piers would comply with current code provisions for volumetric confinement.

D. ACCESSIBILITY1. Per Section 1006.2.1.1,three means of exits are required for the banquet hall (occupancy A with 703 occ. load). Two of the exits (north and west exits) will serve as an accessible means of egress and is continuous to the public way. The third exit (east exit), exits to an exterior space that does not have an accessible route to the public way. The site is bound by two creeks on the northern and eastern edge of the building. The east exit provides an exit to an exterior open area bound by the two creeks. The open area is approx. 65'x50' of open area adjacent to the building. We propose to use this open area as the exterior area for assisted rescue. Is this acceptable?

SUBMIT VIA EMAIL