Appendix A: Facility Condition Assessment Executive Summary

The following is the Facility Condition Assessment Executive Summary. It is included for background and continuity of information since it is referenced often in the report. The basic process is outlined, as are many of the assumptions and considerations as well as the findings. The full FCA report contains considerable detail about the individual buildings.
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Executive Summaries
Summary Detail

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Executive Summaries
Summary Detail
The Foundation for California Community Colleges (FCCC) negotiated a discounted-pricing agreement for facilities condition assessments with 3D/I to document the need for funding to replace and upgrade facilities within California’s community college districts and to assist districts in preparing for bond issues. In summer 2001, the FCCC issued a formal Request for Information in a public newspaper and subsequently reviewed, considered and evaluated the respondents’ experience and quality of work, particularly with higher education clients. The College of Marin (COM) elected to participate in the joint agreement and contracted 3D/I to assess and document the facility repair, rehabilitation and modernization requirements relative to the COM.

Kentfield Campus and Indian Valley Campus

Several 3D/I planning and construction professionals performed an Existing Facility Assessment over a period of about three weeks during the fall of 2002. 3D/I visually inspected 15 of the existing facilities at Kentfield Campus and the four clusters at Indian Valley Campus to identify their condition and to estimate the repair and renovation cost. The Assessment of Existing Facilities section reports the current physical condition of these buildings, totaling approximately 357,599 gross square feet and 150,770 gross square feet respectively.

This report presents 3D/I’s findings. These findings will provide COM with the technical information needed to make informed decisions regarding the disposition of existing facility maintenance funds, as well as, the need and cost of a capital improvement program.

Existing Facility Assessment Findings

The estimated initial cost to repair the facilities at the Kentfield Campus totals approximately $45 million and the facilities at Indian Valley College totals approximately $19.6 million. The generally accepted range for Facility Condition Index (FCI) for establishing a building’s condition is shown below. This standard has been adopted by the Building Owners and Managers Association, the Council on Education Facilities, the American University Planners Association and a number of other national facilities groups.

<table>
<thead>
<tr>
<th>Condition</th>
<th>FCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0 to 5%</td>
</tr>
<tr>
<td>Fair</td>
<td>6 to 10%</td>
</tr>
<tr>
<td>Poor</td>
<td>10% and above</td>
</tr>
</tbody>
</table>

The results of our assessment are summarized in the FCI table on pages eight and 9.
Kentfield Campus

The overall FCI rating of 36.40% for the buildings assessed at the Kentfield Campus means that, in general, the facilities are in extremely poor condition. This appears to be much worse than other Community College campuses built at approximately the same time.

No buildings have an FCI less than 10% at Kentfield.

Two buildings have FCI ratings in excess of 50%. Only two buildings have an FCI rating under 20%. When the FCI approaches 70% the building should be considered for replacement, as opposed to investing substantial money to repair a 30 to 40-year-old building with systems well beyond their useful lives.

A more detailed discussion on the methodology and findings for each of the District buildings is provided in the Assessment of Existing Facilities section of this report.

Indian Valley Campus

The overall FCI rating of 37.42% for the buildings assessed at Indian Valley means that, in general, the facilities are in extremely poor condition, especially considering they are all less than 30 years old. Only four buildings have an FCI less than 30% and no buildings have an FCI of less than 10% the range for good or fair condition.

A more detailed discussion on the methodology and findings for each of the District buildings is provided in the Assessment of Existing Facilities section of this report.
In early 2002, College of Marin authorized 3D/I to perform a district-wide, comprehensive facility condition survey assessment. The costs associated with correction of deficiencies can be identified as follows:

- **Deferred Maintenance** – maintenance work that has been deferred on a planned or unplanned basis due to lack of funds in the annual budget cycle, excluding normal maintenance that has already been scheduled, planned or funded within the current budget cycle.

- **Capital Renewal** – future renewal requirements for building systems that reach the end of their expected useful life.

The comprehensive facilities assessment of COM is a detailed visual, non-destructive inspection of each building. 3D/I’s software, COMET (Condition Management Estimation Technology), is used to record all deficiencies. The survey assessment is a comprehensive room-by-room inventory of defined key elements and characteristics. The result of the inspection is a populated database that catalogs every deficiency that costs more than a certain value.

3D/I is developing an information technology project called the Facility Utilization, Space Inventory Options Net (FUSION) in parallel with the FCCC-3D/I agreement for discounted facility condition assessment services. This project will design and deliver a centralized database and software in which the facility condition assessment data will reside and be used by the districts to better manage their real asset portfolio.

**Approach**

The assessment teams were comprised of several construction and/or design professionals with expertise appropriate to the systems and/or components they were charged to assess. For each building, the teams collected much of the facility’s historical information prior to visiting the facility. This research included a review of existing drawings, meetings with the campus maintenance staff, and a review of previous renovations. The assessment teams then conducted a site visit to verify data already gathered and to record additional information found during the inspection. Based on visual observations and discussions with facility occupants and maintenance staff, the assessors determined what deficiencies existed and the general conditions of key building systems. They then wrote a description of the facility, including an overview of the facility’s construction, building systems and general condition.
Background

The California Community Colleges Chancellor’s Office encouraged districts within the CCC System to take advantage of the discounted assessment service to generate an unbiased appraisal of the school’s physical conditions and to obtain recommendations for building system replacement based on priorities and expected useful life.

Facilities

One of the findings of the assessment process is the determination of the Facility Condition Index (FCI). The FCI is a ratio of the estimated cost to repair the identified deficiencies divided by the estimated replacement value of the facility. It describes the relative physical condition of a building, its components or a group of buildings against a cost model of the original building as if it were at the beginning of its useful life, fully “renewed” to today’s standards.

Summary of Findings

The costs presented below summarize the assessment findings for the current deficiencies. The costs include additional costs, including the normal “soft costs”, associated with a rehabilitation project. These costs can change based on the packaging of repair and renovation projects.

<table>
<thead>
<tr>
<th>Campus</th>
<th>Estimated Repair Cost</th>
<th>Gross Square Feet</th>
<th>FCI%</th>
<th>Replacement Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Valley</td>
<td>$18,724,845</td>
<td>150,770</td>
<td>37.42%</td>
<td>$50,035,914</td>
</tr>
<tr>
<td>Raw Cost</td>
<td>$9,286,811</td>
<td></td>
<td></td>
<td>$37,026,576</td>
</tr>
<tr>
<td>Additional Cost</td>
<td>$9,438,034</td>
<td></td>
<td></td>
<td>$13,009,338</td>
</tr>
</tbody>
</table>

Based on current industry standards, the campus FCI indicates that the facilities are in poor condition.

<table>
<thead>
<tr>
<th>Campus</th>
<th>Estimated Repair Cost</th>
<th>Gross Square Feet</th>
<th>FCI%</th>
<th>Replacement Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentfield</td>
<td>$45,073,089</td>
<td>357,599</td>
<td>36.40%</td>
<td>$123,833,520</td>
</tr>
<tr>
<td>Raw Cost</td>
<td>$22,354,538</td>
<td></td>
<td></td>
<td>$91,636,804</td>
</tr>
<tr>
<td>Additional Cost</td>
<td>$22,718,549</td>
<td></td>
<td></td>
<td>$32,196,716</td>
</tr>
</tbody>
</table>

Based on current industry standards, the campus FCI indicates that the facilities are in poor condition.
Indian Valley Building System Classifications

The following chart gives a breakdown of the recorded deficiencies by their respective building systems for the Indian Valley Campus.

![Estimate by Building System - Indian Valley Campus](chart.png)

In general, the majority of the costs identified in the assessment are for mechanical and electrical systems. Within mechanical systems, most costs are for adding or replacing chillers, boilers and associated components such as air handlers and ductwork. The majority of the electrical system costs are for replacing lighting fixtures and providing additional capacity to the main service and branch circuits.
Kentfield Campus Building System Classifications

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## College of Marin Facilities Condition Assessment

### Indian Valley Campus Facility FCI by Type Structure

The following is a list of the campus facilities grouped by building number that displays the current Repair Cost, Replacement Cost and FCI.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Gross SF</th>
<th>Year Built</th>
<th>Repair Cost</th>
<th>Replacement Cost</th>
<th>FCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indian Valley Campus</td>
<td>150,770</td>
<td></td>
<td>$18,724,845</td>
<td>$50,035,914</td>
<td>37.42%</td>
</tr>
<tr>
<td><strong>1 Pomo</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01 Auto Body and Fender</td>
<td>5,770</td>
<td>1976</td>
<td>$731,753</td>
<td>$1,874,841</td>
<td>41.44%</td>
</tr>
<tr>
<td>02 Auto Technology Lab</td>
<td>8,824</td>
<td>1976</td>
<td>$642,660</td>
<td>$2,867,175</td>
<td>22.41%</td>
</tr>
<tr>
<td>03 Medical Asst/Class/Lab/Ofc.</td>
<td>8,900</td>
<td>1976</td>
<td>$1,384,235</td>
<td>$2,984,377</td>
<td>46.38%</td>
</tr>
<tr>
<td>04 Indust. Tech/Machine &amp; Mtls</td>
<td>5,300</td>
<td>1976</td>
<td>$564,972</td>
<td>$1,877,214</td>
<td>30.10%</td>
</tr>
<tr>
<td>05 Classrooms/Food Vending</td>
<td>5,200</td>
<td>1976</td>
<td>$868,661</td>
<td>$1,689,632</td>
<td>51.41%</td>
</tr>
<tr>
<td>06 Geol/Geog/Bio/Chem</td>
<td>9,000</td>
<td>1976</td>
<td>$1,653,815</td>
<td>$3,017,910</td>
<td>54.80%</td>
</tr>
<tr>
<td>07 Class/Office/ESL</td>
<td>4,500</td>
<td>1976</td>
<td>$690,212</td>
<td>$1,462,181</td>
<td>47.20%</td>
</tr>
<tr>
<td><strong>2 Administrative Services</strong></td>
<td></td>
<td></td>
<td>$1,991,233</td>
<td>$6,652,666</td>
<td>29.93%</td>
</tr>
<tr>
<td>08 Admissions/Student Services</td>
<td>3,700</td>
<td>1975</td>
<td>$388,222</td>
<td>$1,243,330</td>
<td>31.22%</td>
</tr>
<tr>
<td>09 Admin. Services/Health Cntr</td>
<td>3,600</td>
<td>1975</td>
<td>$363,881</td>
<td>$1,209,726</td>
<td>30.08%</td>
</tr>
<tr>
<td>10 ASIVC Office</td>
<td>1,484</td>
<td>1975</td>
<td>$203,473</td>
<td>$482,195</td>
<td>42.20%</td>
</tr>
<tr>
<td>11 Info. Services Center</td>
<td>5,000</td>
<td>1977</td>
<td>$476,154</td>
<td>$1,767,068</td>
<td>26.95%</td>
</tr>
<tr>
<td>12 Book Store/Child Care</td>
<td>5,804</td>
<td>1975</td>
<td>$599,503</td>
<td>$1,950,347</td>
<td>28.69%</td>
</tr>
<tr>
<td><strong>3 Miwok</strong></td>
<td></td>
<td></td>
<td>$5,078,081</td>
<td>$13,615,842</td>
<td>37.30%</td>
</tr>
<tr>
<td>13 Art Labs/Gallery/Classrooms</td>
<td>9,000</td>
<td>1975</td>
<td>$1,038,817</td>
<td>$3,017,910</td>
<td>34.42%</td>
</tr>
<tr>
<td>14 Foreign Language lab</td>
<td>4,500</td>
<td>1975</td>
<td>$628,586</td>
<td>$1,462,181</td>
<td>42.99%</td>
</tr>
<tr>
<td>15 Assoc. Students/Lounge/Deli</td>
<td>6,300</td>
<td>1975</td>
<td>$931,381</td>
<td>$2,047,054</td>
<td>45.50%</td>
</tr>
<tr>
<td>16 Dig. Village Bus. Cluster</td>
<td>8,610</td>
<td>1975</td>
<td>$1,155,062</td>
<td>$2,887,134</td>
<td>40.01%</td>
</tr>
<tr>
<td>17 Library</td>
<td>14,280</td>
<td>1977</td>
<td>$1,324,235</td>
<td>$4,201,563</td>
<td>31.52%</td>
</tr>
<tr>
<td><strong>4 Ohlone</strong></td>
<td></td>
<td></td>
<td>$5,119,223</td>
<td>$13,994,076</td>
<td>36.58%</td>
</tr>
<tr>
<td>18 Compr/Court Rept Labs</td>
<td>4,187</td>
<td>1975</td>
<td>$699,875</td>
<td>$1,360,479</td>
<td>51.44%</td>
</tr>
<tr>
<td>19 Ofc Occupy/Court Rept/Comp</td>
<td>16,356</td>
<td>1975</td>
<td>$1,950,909</td>
<td>$5,484,548</td>
<td>35.57%</td>
</tr>
<tr>
<td>20 Food Vend/PE/Class Rooms</td>
<td>6,768</td>
<td>1975</td>
<td>$1,017,690</td>
<td>$2,169,227</td>
<td>46.91%</td>
</tr>
<tr>
<td>21 Pool/Shower/Locker Room</td>
<td>9,506</td>
<td>1977</td>
<td>$1,179,536</td>
<td>$3,543,944</td>
<td>33.28%</td>
</tr>
<tr>
<td>22 Campus Police/Corp Yard</td>
<td>4,273</td>
<td>1975</td>
<td>$271,213</td>
<td>$1,435,878</td>
<td>18.89%</td>
</tr>
</tbody>
</table>
Kentfield Campus Facility FCI by Type Structure

The following is a list of the campus facilities grouped by building number that displays the current Repair Cost, Replacement Cost and FCI.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Gross SF</th>
<th>Year Built</th>
<th>Repair Cost</th>
<th>Replacement Cost</th>
<th>FCI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kentfield Campus</strong></td>
<td>357,599</td>
<td></td>
<td>$45,073,089</td>
<td>$123,833,520</td>
<td>36.40%</td>
</tr>
<tr>
<td>Science Center</td>
<td>50,837</td>
<td>1969</td>
<td>$4,237,105</td>
<td>$15,848,669</td>
<td>39.35%</td>
</tr>
<tr>
<td>Admin. Center/Childrens Center</td>
<td>3,595</td>
<td>1940</td>
<td>$1,034,430</td>
<td>$1,252,195</td>
<td>104.17%</td>
</tr>
<tr>
<td>Bolinas Marine Lab</td>
<td>845</td>
<td>1964</td>
<td>$180,631</td>
<td>$250,454</td>
<td>72.12%</td>
</tr>
<tr>
<td>Bolinas Marine Station</td>
<td>3,333</td>
<td>1964</td>
<td>$485,988</td>
<td>$1,120,611</td>
<td>43.37%</td>
</tr>
<tr>
<td>Business and Management Center</td>
<td>5,429</td>
<td>1956</td>
<td>$788,972</td>
<td>$1,805,644</td>
<td>43.69%</td>
</tr>
<tr>
<td>Dance Center/Landscape Center</td>
<td>9,604</td>
<td>1954</td>
<td>$1,427,940</td>
<td>$3,808,264</td>
<td>37.50%</td>
</tr>
<tr>
<td>Diamond P.E. Center/Gymnasium</td>
<td>36,392</td>
<td>1965</td>
<td>$4,690,560</td>
<td>$12,890,938</td>
<td>36.39%</td>
</tr>
<tr>
<td>Dickson Hall</td>
<td>11,870</td>
<td>1935</td>
<td>$866,878</td>
<td>$3,947,871</td>
<td>21.96%</td>
</tr>
<tr>
<td>Disabled Students Center</td>
<td>1,661</td>
<td>1973</td>
<td>$87,241</td>
<td>$588,312</td>
<td>14.83%</td>
</tr>
<tr>
<td>FCLRC/Lib./Bookstore/ESL/CIS</td>
<td>65,575</td>
<td>1971</td>
<td>$6,458,868</td>
<td>$23,175,090</td>
<td>27.87%</td>
</tr>
<tr>
<td>Fine Art/Art Gallery/Box Offic</td>
<td>79,636</td>
<td>1950</td>
<td>$13,358,745</td>
<td>$28,206,386</td>
<td>47.36%</td>
</tr>
<tr>
<td>Fusselman Hall</td>
<td>14,717</td>
<td>1939</td>
<td>$2,285,791</td>
<td>$5,212,635</td>
<td>43.85%</td>
</tr>
<tr>
<td>Harlan Center</td>
<td>25,651</td>
<td>1969</td>
<td>$1,563,038</td>
<td>$8,521,562</td>
<td>18.34%</td>
</tr>
<tr>
<td>Olney Hall</td>
<td>12,227</td>
<td>1956</td>
<td>$1,357,843</td>
<td>$4,066,606</td>
<td>33.39%</td>
</tr>
<tr>
<td>Stdt.Serv.Cen./Cafe/Emeritus</td>
<td>36,227</td>
<td>1966</td>
<td>$3,979,059</td>
<td>$13,138,283</td>
<td>30.29%</td>
</tr>
</tbody>
</table>

It is accepted practice within the field of professional property management to consider replacement rather than repair of an asset when the FCI for that facility is in the range of 60 – 70% or higher. For facilities with an FCI in or near this range, the master planning process should carefully weigh issues such as:

- Student population (current versus planned) of the school in question
- The generally good condition of the existing foundations and superstructures
- The need for additional space, i.e., new construction
- The appropriateness of the location of current assets

This report provides cost estimates to renovate the facilities and eliminate the identified deficiencies. Please note that these estimates reflect current building standards, codes and livability issues into the renovation. The cost estimates do not reflect upgrades to:

- the architectural program—e.g., additional square footage for another educational mission
- finishes—e.g., terrazzo tile in lieu of concrete
- systems—replacement of a 200 Amp electrical service with a 300 Amp service, which may in fact be more applicable for today’s
educational mission/program but would require further engineering and study to determine the appropriate service for today’s learning environment
Funding Requirements – 10 Year Renewal Projection

The following chart illustrates the 10 year total funding requirements for the three COM funding scenarios. It shows the combined funding needed for correcting the assessed deficiencies and the predicted capital renewal requirements. Using this chart, we can query:

- “How much funding is required to maintain the current FCI?”
- “What level of funding is required to achieve an FCI of 10%?”
- “What level of funding is required to achieve an FCI of 5%?”

Future Facility Funding vs FCI for Indian Valley Campus

![Chart showing future facility funding vs FCI for Indian Valley Campus](chart.png)
Indian Valley Campus

- **Current FCI: Keep the current FCI Stable (Red)**
The red line shows capital renewal costs over the next 10 years that would be required to maintain the current FCI. The total to keep the FCI stable is approximately **$13.4 million**.

- **Required funding: Reduce the FCI to 25% (Blue)**
The blue line assumes a consistent level of funds for the next 10 years to buy-down the current deficiencies and additional funding for capital renewal items to achieve an FCI of 25%. The total to reduce the FCI to 25% is approximately **$21 million**.

- **Required funding: Reduce the FCI to 12% (Green)**
The green line assumes a consistent level of funds for the next 10 years to buy-down the current deficiencies and additional funding for capital renewal items to achieve an FCI of 12%. The total to reduce the FCI to 12% is approximately **$28 million**.
Kentfield Campus

- **Current FCI: Keep the current FCI Stable (Red)**
The red line shows capital renewal costs over the next 10 years that would be required to maintain the current FCI. The total to keep the FCI stable is approximately **$28 million**.

- **Required funding: Reduce the FCI to 24% (Blue)**
The green line assumes a consistent level of funds for the next 10 years to buy-down the current deficiencies and additional funding for capital renewal items to achieve an FCI of 24%. The total to reduce the FCI to 24% is approximately **$46.3 million**.

- **Required funding: Reduce the FCI to 12% (Green)**
The green line assumes a consistent level of funds for the next 10 years to buy-down the current deficiencies and additional funding for capital renewal items to achieve an FCI of 12%. The total to reduce the FCI to 12% is approximately **$64 million**.
20 Year Capital Renewal Forecast
The cost models for each building give us a method to predict future needs for capital renewal. Each model allows us to assess the remaining life of each of the main systems in the building and to enter the expected time of replacement of such systems. Although each model is only a rough approximation for one building, over a larger sample size, these cost models produce a reliable estimate of the yearly cost to replace building systems. This chart illustrates a 20-year projection of capital renewal funding requirements, excluding current deficiencies for the entire district.

The overall FCI of the facilities at the Kentfield Campus is 36.4 % and at Indian Valley Campus is 37.42 %; this is considerably worse than what we find for facilities of similar age and function across the nation.

The majority of the deferred maintenance requirements can be renewed without demolition of the facility (e.g., mechanical and electrical systems, wall and floor finishes, and exterior doors and windows). Not all facilities should be renovated, but renovation should remain an option as the planners consider educational master plans, new buildings, high growth areas, population, etc….
Facilities Assessment Methodology
The basic surveys to be performed within the CCC System are referred to as “Level 1” or “Level 2” assessments. A Level 1 assessment is a mathematical model of a facility’s component building systems, which is used to determine their conditions based on the components’ planned life cycles. It is a strategic tool for programming and budgeting capital renewal costs; a macro view of facility status. A Level 2 assessment is a detailed physical survey of the condition of existing facilities wherein the assessors document hundreds or thousands of current deficiencies. These deficiencies are added to the Level 1 component building system life cycles to determine a comprehensive facility evaluation of both current deficiencies and future renewal costs. It is a tool for facility managers to identify specific deferred maintenance and capital renewal items to repair or replace.

The majority of the facility condition assessment being performed by 3D/I, for Districts within the California Community College System, are Level 2 assessments. For this type of assessment, data is collected from a review of as-built drawings and other current documents as well as a complete but non-destructive visual inspection of facilities. Typical areas of buildings that are investigated include roofs, mechanical rooms and exterior support areas extending to five feet from the building.

The first phase of a Level 2 assessment is the review of the floor plans of each facility to be assessed. Next a hierarchical structure (a “tree” or “parent/child” relationship) that captures the facilities and all interior rooms and spaces is designed in the COMET software. The tree structure provides the assessor a road map of the building and the lowest level of the tree structure is where the deficiencies are recorded. The next step is developing cost models for the life cycles of building systems. This includes reviewing existing documents to determine types, ages, and components of the buildings and the dates and scope of any recent renovations.

3D/I’s cost models are based on RS Means building material estimates and the Business Owners and Managers Association (BOMA) estimated useful life of building components. However, COMET can be customized to reflect individual clients’ project or O&M cost histories and to account for particular environmental or operational conditions—such as excessive moisture and efforts, since they can often significantly affect the number of years a system can remain in operation.
Priorities
Each deficiency is assigned a “Priority” as described below.

- **Priority 1: Directly Affects the Educational Mission** – Systems or elements within systems that should be repaired or replaced to mitigate issues *that prevent the educational mission* of the facility.

- **Priority 2: Indirectly Affects the Educational Mission** - Systems or elements within systems that should be replaced or repaired *to maintain the educational mission* of the facility or mitigate additional damage to the facility.

- **Priority 3: Beyond Expected Useful Life** – Systems or elements within systems that should be replaced or repaired *to maintain the mission* of the facility but potentially have some life left.

- **Priority 4: Finishes and Improvements** – Systems or elements within systems that should be replaced or repaired or upgraded that have *minimal impact on the educational mission* of the facility.

Categories
Each deficiency is classified into one of the following categories.

- Life Safety Code Compliance
- Building Code Compliance
- Accessibility Code Compliance
- Capital Renewal
- Deferred Maintenance
- Energy Efficiency Improvement
- Hazmat

Adverse Effects
Each deficiency is assigned one of the following risk potentials.

- Campus / Facility Closure
- Safety Hazard
- Disruption of Program
- Code Violation
- Greater Future Damage / Cost
- Inconvenience
- Potential / Future Damage / Cost
City Cost Index (CCI)
The R.S. Means data used to develop the cost models and price the deficiencies is based on a national average. In order to reflect pricing indicative of this area of the country, a City Cost Index (CCI) is applied to all pricing and cost models.

Facility Condition Index (FCI)
The FCI represents the relative physical condition of facilities. The FCI measures the estimated cost of the recommended improvements compared to the replacement cost of the facility. The total cost of repairs divided by the facility replacement cost is the FCI. A higher FCI indicates a poorer facility condition. For example, if a building has a replacement value of $1,000,000 and has $100,000 of existing deficiencies, the FCI is $100,000/$1,000,000 or 0.10. The generally accept rule of thumb in building condition assessments is:

<table>
<thead>
<tr>
<th>Condition</th>
<th>FCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>0 to 5%</td>
</tr>
<tr>
<td>Fair</td>
<td>6 to 10%</td>
</tr>
<tr>
<td>Poor</td>
<td>10% and above</td>
</tr>
</tbody>
</table>

Facility Systems
- Conveying: Elevators
- Electrical: lighting and power, service and distribution
- Exterior Closure: exterior doors, exterior walls, windows and glazed walls, roofing
- Interior Construction: ceiling finishes, floor finishes, interior doors, wall finishes, walls
- Mechanical: boiler, cooling; heating, ventilating and air-conditioning (HVAC) pipe, insulation and ducts, air handling units
- Plumbing: fire sprinkler systems, plumbing fixtures, plumbing pipe
- Structural: superstructure (columns, beams, footings, foundations, slab-on-grade, etc…)
- Roof includes all components of a roofing system including the deck, insulation, membrane and any special work such as gutters or repairing flashing, etc…
- Slab on Grade includes any repairs, removal or replacement after other work is done
- Special Construction includes chalk and tack boards, seating, etc…
- Structural includes framing system, columns, beams and slabs
- Superstructure includes the exterior walls
- Windows includes repair or replacement of window units
- Structural: superstructure (columns, beams, footings, foundations, slab-on-grade, etc…)
Facility Replacement Cost
This represents the derived expense to rebuild the existing facilities in a manner representing the desired construction. The replacement cost is determined by multiplying the gross area of the facility by the estimated cost per square foot associated with the pertinent cost model.

Renewal Premiums
The costs developed in the models are typical of new construction. When a renovation project is undertaken certain additional costs are incurred for some systems because of demolition and difficulty. For other systems not all items in the assembly are replaced. In these instances the reduction in work overcompensates for the demolition costs and a lower cost is incurred. The table below details our strategy for this issue by system group.

<table>
<thead>
<tr>
<th>System Name</th>
<th>Life (YRS)</th>
<th>% Renewal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling Finishes</td>
<td>13</td>
<td>115</td>
</tr>
<tr>
<td>Cooling Equipment</td>
<td>25</td>
<td>90</td>
</tr>
<tr>
<td>Doors</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td>Fire Protection</td>
<td>25</td>
<td>90</td>
</tr>
<tr>
<td>Heating</td>
<td>30</td>
<td>90</td>
</tr>
<tr>
<td>Insulation</td>
<td>20</td>
<td>110</td>
</tr>
<tr>
<td>Interior Doors</td>
<td>25</td>
<td>105</td>
</tr>
<tr>
<td>Interior/Exterior Walls</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>Floor Finishes</td>
<td>10</td>
<td>115</td>
</tr>
<tr>
<td>Footings &amp; Foundations</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Lighting &amp; Power</td>
<td>20</td>
<td>90</td>
</tr>
<tr>
<td>Parking, Landscape &amp; Drainage</td>
<td>20</td>
<td>50</td>
</tr>
<tr>
<td>Partitions</td>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>Piping &amp; Fixtures</td>
<td>30</td>
<td>90</td>
</tr>
<tr>
<td>Roof</td>
<td>20</td>
<td>110</td>
</tr>
<tr>
<td>Service &amp; Distribution</td>
<td>30</td>
<td>90</td>
</tr>
<tr>
<td>Special Construction</td>
<td>25</td>
<td>115</td>
</tr>
<tr>
<td>Superstructure</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Wall Finishes</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>Windows &amp; Doors</td>
<td>30</td>
<td>105</td>
</tr>
</tbody>
</table>
Raw and Additional Costs

Raw costs include the contractor’s installation cost (RS Means data), site work, the contractor’s general conditions, the general contractor’s overhead and profit and an amount for construction contingency. Additional costs are costs which are necessary to accomplish the work but are not directly attributable to the general contractor or the deficient system. Additional costs vary by user but can include design fees: specialized investigations such as geo-technical, environmental or hazardous material; program management fees; and various administrative fees. The additional costs used in this assessment are as follows:

New Construction Cost Breakdown for Cost Models

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Raw Cost</strong></td>
<td></td>
</tr>
<tr>
<td>1. Total Subcontractor/Specialty Costs</td>
<td>R.S. Means Assembly price</td>
</tr>
<tr>
<td>2. Site Work</td>
<td>12.0% of 1</td>
</tr>
<tr>
<td>3. General Conditions</td>
<td>15.0% of (1+2)</td>
</tr>
<tr>
<td>4. Contractor Overhead and Profit</td>
<td>10.0% of (1+2+3)</td>
</tr>
<tr>
<td>5. Construction Contingency</td>
<td>5% of (1+2+3+4)</td>
</tr>
<tr>
<td>6. General Contract</td>
<td>1+2+3+4+5</td>
</tr>
<tr>
<td><strong>Additional Cost</strong></td>
<td></td>
</tr>
<tr>
<td>7. Architecture and Engineering</td>
<td>15.0% of General Contract</td>
</tr>
<tr>
<td>8. Plan Check/Permits/Fees</td>
<td>2.0% of General Contract</td>
</tr>
<tr>
<td>9. Hazardous Materials</td>
<td>0.5% of General Contract</td>
</tr>
<tr>
<td>10. Materials Testing and Inspection</td>
<td>2.0% of General Contract</td>
</tr>
<tr>
<td>11. Bonds and Insurance</td>
<td>2.0% of General Contract</td>
</tr>
<tr>
<td>12. Temporary Storage and Relocation</td>
<td>1.0% of General Contract</td>
</tr>
<tr>
<td>13. Furniture and Equipment</td>
<td>7.0% of General Contract</td>
</tr>
<tr>
<td>14. Construction Management</td>
<td>5.0% of General Contract</td>
</tr>
</tbody>
</table>
Renovation Cost Breakdown for deficiencies pricing

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Raw Cost</strong></td>
<td></td>
</tr>
<tr>
<td>1. Total Subcontractor/Specialty Costs</td>
<td>R.S. Means per unit price</td>
</tr>
<tr>
<td>2. Site Work</td>
<td>0% of 1</td>
</tr>
<tr>
<td>3. General Conditions</td>
<td>15.0% of (1+2)</td>
</tr>
<tr>
<td>4. Contractor Overhead and Profit</td>
<td>10.0% of (1+2+3)</td>
</tr>
<tr>
<td>5. Construction Contingency</td>
<td>15% of (1+2+3+4)</td>
</tr>
<tr>
<td>6. General Contract</td>
<td>1+2+3+4+5</td>
</tr>
<tr>
<td><strong>Additional Cost</strong></td>
<td></td>
</tr>
<tr>
<td>7. Architecture and Engineering</td>
<td>15.0% of General Contract</td>
</tr>
<tr>
<td>8. Plan Check/Permits/Fees</td>
<td>2.0% of General Contract</td>
</tr>
<tr>
<td>9. Hazardous Materials</td>
<td>3.0% of General Contract</td>
</tr>
<tr>
<td>10. Materials Testing and Inspection</td>
<td>2.0% of General Contract</td>
</tr>
<tr>
<td>11. Bonds and Insurance</td>
<td>2.0% of General Contract</td>
</tr>
<tr>
<td>12. Temporary Storage and Relocation</td>
<td>1.0% of General Contract</td>
</tr>
<tr>
<td>13. Furniture and Equipment</td>
<td>7.0% of General Contract</td>
</tr>
<tr>
<td>14. Construction Management</td>
<td>5.0% of General Contract</td>
</tr>
</tbody>
</table>

It is important to note that these costs may vary once plans for executing the work are created. If variations do occur over time, the data in COMET can be easily updated to reflect the changing costs.
Appendix B: List of Interviews

05-07-03(W)
- PAMELA MIZE, Dean of Enrollment Services
- DAVID COOK, Director of Financial and Career Aid
- MARIE McCarthy, Counselor, Disabled Students Program (DSP)

05-08-03(Th)
- RONALD GAIZ, Chair of Communications
- BLAZE WOODLIEF, Director of English as a Second Language (ESL)
- HENRY FEARNSLEY, Chair of Social Sciences
- EDWARD KISSICK, Chair of Business and Information Systems
- PAUL CHRISTENSEN, Chair of Behavioral Sciences
- ROSALIND HARTMAN, Director of Health Sciences

05-09-03(F)
- BECKY REETZ, Coordinator of Tutoring Center
- DOUGLAS DELANEY, Music
- ANTHONY MONTLIEF, Chair of Math
- CAROL ADAIR, Chair of Communications
- BILL ABRIGHT (1st), Coordinator of Ceramics Program, Art
- CARLA SMITH-ZILBER, Coordinator of Drama Program
- DAVID WHITE, Designer/Stage Technician, Drama

05-12-03(M)
- KRISTI KUHN, Coordinator of Dance Program
- EMILY LAZAREE, Three Dimensional Focus, Art
- WALTER TURNER, Ethnic Studies, History
- TARA FLANDREAU, Music
- LEAH HILLOPIA, Philosophy, Humanities
- DAVID ROLLISON, Chair of English and Humanities
- BERND ENDERS and
- ERIK DUNMIRE, Co-chairs, Physical Sciences
• BONNIE BORENSTEIN, Dean of Humanities and Instructional Technology, Dean of Library Services

05-13-03(T)
• DON FLOWERS, Maintenance Supervisor
• KATHY WAGNER, Art
• STAN KRASCEK, Chair of Performing Arts
• BILL ABRIGHT (2nd), Coordinator of Ceramics Program, Art
• ALLEN TAYLOR, Drama
• CHESTER ARNOLD, Chair of Fine and Visual Arts

05-14-03(W)
• JIM BROVELLI, Director of Physical Education and Athletics
• KATHY FRESCHI, Chair of Foreign Languages
• STUDENT GATHERING arranged by Michael Beebe’s office and conducted by KMD
  o JAMES GERAGHTY
  o REBECCA CHRISMAN
  o CHRIS HULLS
  o 3 STUDENTS whose names were not recorded

05-15-03(Th)
• JUDITH MARTIN, Director of Teacher and Reading Development
• JOE MUELLER, Chair of Biology

08-18-03(M)
• MARGARET ELLIOT, Executive Director, College of Marin Foundation
• JAN DARGEL, Vice President, Academic Affairs
• SUPPORT STAFF / INDIAN VALLEY
  o CARI POGAN, Director of Academic Services
  o MARY GALE BEYER, Computer Lab Technologist
  o THOMAS HOLUB, Instructor
  o PETE LOEFFLER, Auto Lab Technologist
  o LAURIE LOEFFLER, Career Education and Workforce Development
  o KATHY JOINER, Business Services
  o PAULETTE FOSTER, Office Specialist, A/R
  o MARTY SUKOSK, Teacher and Reading Development Program
  o MIKE LEWIS, Computer Program Counselor
  o DORIS TUCKER, Payroll Technician
• DON SCHOLTER, IT System Support Administrator
• RAINER M. WACHOLOVSKY, IT Support
• BEN CAMABYAB, Fiscal
• BOB THOMPSON, Director of Maintenance and Operations

08-19-03(T)

• PHYLLIS METCALF, Trustee
• MANAGEMENT COUNCIL / KENTFIELD
  • PAULA KUTNASKY-BROWN
  • ROZ HARTMAN
  • JUDITH MARTIN
  • BLAZE WOODLIEF
  • LORAINE WILSON
  • CARI POGUE
  • CHRIS SCHULTZ
  • DAVID COOK
  • JOY SNYDER
  • JIM BROCELLI
  • MICHAEL BEEBE
  • LINDA DALTON
  • CHARLES LACEY
  • BONNIE BOORENSTEIN
  • SANDY ROBERTS
  • LING SING
  • RAINER WACHOLOVSKY
  • THEO MABRY

08-20-03(W)

• FRANK PARNELL, Trustee, President of Board of Trustees
• GREG BROCKBANK, Trustee
• EVA LONG, Trustee
• BARBARA DOLAN, Trustee

08-21-03(Th)

• DON FLOWERS, Maintenance Supervisor
• WANDEEN TRAYNOR, Trustee

09-23-03(T)

• COLLEGE OF MARIN FOUNDATION, Board of Directors
• LOIS CALLAHAN, Interim President
09-24-03 (W)

- **FACULTY AND SUPPORT STAFF / INDIAN VALLEY**
  - RON PALMER
  - ARTHUR LUTZ, Metal Machine Technology
  - GEORGE HRITZ, Program Coordinator, Auto Technology
  - SHERRI ROLLISON, Instructor, Dance Department
  - LEITA HLAVACHEK, Counseling Department
  - LINDA NYLAND, Children’s Center
  - MARTI SAKOSKI, Teacher Education
  - MIKE LEWIS, COMGO Computer Center
  - CECIL BANKS, Financial Aid Office
  - JAMES GONZALEZ, Multimedia Department

09-25-03 (Th)

- **FACULTY AND SUPPORT STAFF / KENTFIELD**
  - PAULA KUTANSKY-BROWN, Physics and Astronomy Department
  - JUNE LEE, Nurse, Health Clinic
  - JODI FITZGERALD, Curriculum Office
  - SUSAN SCOTT, Counseling Department
  - ROBERT E. MILL, Counseling Department
  - ALICE PEVYHOUSE, Physics and Astronomy
  - BERND ENDERS, Co-Chair, Physics and Astronomy

- **FRIENDS OF CORTE MADERA CREEK WATERSHED**
  - TOM GOLDMAN
  - CAROLE D’ALESSIO
Appendix C: Report of Civil Engineers

The firm of Sandis Humber Jones (SHJ) Civil Engineers reviewed existing utilities, drainage and flood-plains to ascertain capacity deficiencies and known operational problems that might affect future development of the College and to recommend actions to be included in projects proposed for a bond program.
Sitework and Utilities Infrastructure Assessment

Overview

The goal of this Facility Needs Assessment (FNA) is to aid 3D/International (3D/I) in developing a catalog of facility projects at the College of Marin campuses for inclusion in a bond referendum for the 2004 election in Marin County.

Summarizing from coordination with 3D/I, this FNA will:

1. Develop a “wish list” of site and infrastructure improvements.
2. Ascertain what work is required to sustain, renew, or replace existing site improvements and utilities.
3. Determine a “most wanted/most needed” list for sitework and utility improvements.

The Final Facility Needs Assessment (FNA) will:

1. Examine the draft master plan to confirm needs.
2. Prioritize projects.
3. Prepare a final project list.

The FNA was compiled using data from site walks, discussions with Campus Facilities, direction from 3D/I, research of existing campus utilities systems, research of existing utilities systems surrounding the Campuses, and our experience with college campus utilities needs and infrastructure improvements.

Summary

The majority of the Kentfield and Indian Valley campuses were constructed in the 1950’s-1960’s and the 1970’s, respectively. Because of the age of the campuses, constant maintenance issues, changing technologies, and new building codes, most of the utilities systems need improvement to minimize campus maintenance efforts and facilitate future development.

The campus utilities are mostly undocumented. Discussions with the District Facilities Department focused on known maintenance issues. Over the years, the Facilities Department have begun collecting data about the existing utilities in the campuses, but cannot provide data for the location nor size of existing utilities for future development. Record drawings were not available for examination.
Existing utilities can be mapped by utility locating services. Utilities should be compiled into a base topographic survey, drafted to scale, for use by the design teams providing services to the District. Although only actual excavation will reveal the depths, sizes, materials, and location of underground utilities, a topographic survey will aid the District in developing more quantitative infrastructure improvements needed for the campuses.

The following items reflect not only current infrastructure needs, but projected future maintenance issues as well as work for future campus development. The maintenance issues and concerns compiled by SHJ and the Facilities Department for both campuses include, but are not limited to:

- A deficiency in isolation valves for the water system
- Aging electrical transformers, switchgears, and cabling
- Crushed irrigation piping
- Unmapped fire water sprinkler system connections
- Gas piping leaks
- Overhead electrical cabling
- Sanitary Sewer back-ups
- Transite piping
- Water infiltration into Electrical conduits and buildings.

Additionally, at each campus, maintenance issues included:

- An aging Condensate Loop at Indian Valley
- Erosion at Indian Valley
- Flooding at Kentfield
- Groundwater infiltration into building basements at Kentfield

**Recommendations**

Based on SHJ’s evaluation of the available data, the following is a list of the most needed/most wanted and recommended work for the Colleges:

1. Add erosion control measures at the Indian Valley Campus.
2. Replace the gas main at Indian Valley.
3. Perform a Boundary and Topographic Survey.
4. Replace the Condensate Loop at Power Plant 1 serving the Library and Ohlone Cluster on the Indian Valley campus.
5. Video inspect the interior of sanitary sewer and storm drain utilities to determine what rehabilitation measures are necessary.
6. Inspect all 12 KV electrical equipment, trenches, transformers, switchgears, cabling, and conduit.
7. Flow test the existing fire water systems.
8. Map campus-wide underground and overhead utilities.
9. Pothole existing Gas and Water lines for location, size, depth, pipe material, and pipe condition.
10. Rehabilitate campus parking lots.

These recommendations include work to repair existing systems as well as determine what future work is necessary to aid the District in determining what work is needed for the continued development of the Marin Community College District’s Kentfield and Indian Valley campuses.

**Marin Community College District - Existing Utilities Summary**

**Kentfield Campus**

**Site Description**

**Location**

The Kentfield Campus of the College of Marin encompasses approximately 60 acres in Kentfield, Marin County, California. The campus is located to the west of Highway 101.

The majority of the campus buildings are located north of Corte Madera Creek. This section of the campus is bounded by Laural Avenue, College Ave, and Sir Francis Drake Boulevard.

The Science Center and the Maintenance Shops are located south of the Creek. This section is bounded by College Avenue, Stadium Way, and Kent Avenue.

The Athletic Complex is located south of the Creek on the east side of College Avenue.

**Topography**

The campus is located in a valley east of Ross Hill. Corte Madera Creek flows easterly through the campus, and exits southeasterly into Corte Madera Channel where it eventually outfalls to San Francisco Bay.

**Flood Plain**

The campus is located in both Zone A and Zone C, as depicted in Panel 060173-0433-A of the Federal Emergency Management Agency, Flood Insurance Rate Map (FEMA FIRM) dated March 1, 1982.
Zone A is an area of 100-year flood. Base flood elevations and flood hazard factors were not determined by FEMA. Zone A affects most of the campus buildings and structures south of the Corte Madera Creek. Base flood elevations should be determined for any development in this area.

Zone C is an area of minimal flooding. Base flood elevations and flood hazard factors were not determined by FEMA. Zone C affects the area of campus north of Corte Madera Creek. Three areas of Zone C are scattered within Zone A.
Parking

The Kentfield campus has surface parking lots adjacent to Sir Francis Drake Boulevard, College Avenue, and Kent Avenue.

Existing Utilities

Water

Fire and domestic water is supplied by North Marin Water District. The campus has a combined fire and water system conveyed by transite pipes. The water system at the northern part of the campus ties into the NMWD main at two locations. One connection is located in the parking lot adjacent to Sir Francis Drake Boulevard. The second connection is in of Laurel Avenue near the Fine Arts Building.

There are approximately 11 fire hydrants evenly distributed throughout the campus. The North Marin Water District maintains five service meters and one fire line meter. The location of the service meters, pipe sizes, and pressure are presented in the table below.

<table>
<thead>
<tr>
<th>Service Meter Location</th>
<th>Pipe Size and Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjacent to Sir Francis Drake, across from Elm Ave.</td>
<td>2” CIP @ 125 psi</td>
</tr>
<tr>
<td>Adjacent to Sir Francis Drake, across from Maple Ave.</td>
<td>6” CIP @ 120 psi</td>
</tr>
<tr>
<td>Adjacent to Laurel Ave., next to Parking Lot #4.</td>
<td>6” CIP @ 120 psi</td>
</tr>
<tr>
<td>Adjacent to Kent Ave., in front of the Science Building.</td>
<td>8” CIP @ 130 psi</td>
</tr>
<tr>
<td>In the vicinity of Parking Lot #9.</td>
<td>2” CIP @ 125 psi</td>
</tr>
</tbody>
</table>
Sanitary Sewer

The City maintains a public sewer system in the streets surrounding the campus. There is a 36-inch sewer main servicing the campus north of Corte Madera Creek, and a 30-inch main servicing the campus south of the Creek.

The laterals servicing the buildings on College Avenue connect to an 8-inch Asbestos Concrete Pipe (ACP). The 8-inch ACP connects into a 36-inch City main that runs parallel to the Corte Madera Creek.

The laterals servicing a majority of the campus structures north of the Corte Madera Creek connect to a 10-inch pipe that runs to the 36-inch City main.

The laterals servicing the buildings and complex on College Avenue, south of the Creek, connect to a 12-inch ACP and continues north. The 12-inch ACP connects to a 30-inch City main near the underground culvert north of the PE Complex and continues west.

Sewage from the 30-inch City main crosses below the Creek via a double siphon device. The 30-inch main is connected to the 36-inch main and continues to run south toward the City Pump Station.

The sewer system for the Kentfield campus is approximately 40 to 50 years old. Some minor root intrusion was noted in the laterals servicing several of the Campus buildings.

Storm Drainage

The concrete-lined portion of Corte Madera Creek was installed by the Army Corps of Engineers for the Marin County Flood Control District, and it was designed for a 100-year storm event. However, three floods have occurred in the last 20 years. Past floods, as deep as four feet, were reported in the southern part of the campus.

The Corte Madera Creek is maintained by the Marin County Flood Control and Water Conservation District. There are also two 11-feet wide culverts located beneath the Physical Education Complex which outfall to the Corte Madera Channel.

Although the southern portion of campus is prone to flooding conditions, the campus storm drain system is equipped with check valves (flappers) to prevent storm water back up through the underground piping network.
Natural Gas

PG&E supplies natural gas service to the Campus. The gas main connection is located in Laural Avenue adjacent to the Fine Arts Building. No documentation was available for the size, type, and location of the campus gas piping. The northern part of the campus receives gas through the master gas meter located adjacent to the Fine Arts Building. The gas pressure is approximately 5 psi. Separate gas services are used to supply the Science Building and the Physical Education Complex.

Power

PG&E supplies electricity to the campus. The electric meter for the northern part of the campus is located adjacent to the Fine Arts Building. After the meter, the Campus owns and maintains the transformers and switches. There are seven major power shut-off locations scattered throughout the campus. Although the existing electrical service is 12-KV; the cable is rated for 15-KV. The campus was reported to have sufficient power for future development.

Indian Valley Campus

Site Description

Location

From the 1980 Indian Valley Colleges – A Master Plan document, the Indian Valley Campus occupies 333 acres of land in Novato, Marin County, California. Of the 333 acres of land, 69 acres were located on a grade of 10 percent or less in slope and sited for development. The campus encompasses approximately 60 acres of the site.

Topography

The campus is surrounded by the Indian Valley Open Space Preserve, near the San Jose (Pacheco) mountain ridges, to the northeast of the Big Rock Ridge. It is located in the outskirts of the City of Novato, at the end of Ignacio Valley Boulevard. Surrounded by hills, the site itself is in a valley, but is at a higher elevation than the City.

Novato Creek originates from the southwest of the campus, traverses the campus in an easterly direction, then continues to the southeast through the City of Novato, and eventually to the San Francisco Bay.
FACILITY NEEDS ASSESSMENT
Marin Community College District

Flood Plain

The campus is located in Zone X, as depicted in Panel 060178-0004-C of the Federal Emergency Management Agency, Flood Insurance Rate Map (FEMA FIRM) dated September 29, 1989. The Zone is described as an area outside of the 500-year flood plain.

Student Population

The campus was master-planned for a student population of 5000 per the 1980 Master Plan document.

Parking

The campus has one major public point-of-entry at Ignacio Valley Boulevard, located on the southeast corner of the campus. There is also an existing non-public, narrow dirt road on the west side of the site that ties the campus to Indian Valley Road. From the 1980 Master Plan document, two alternate routes to tie Ignacio Valley Boulevard to Indian Valley Road were approved for future consideration. The connecting routes were located on the northern side of the site, but were not constructed.

The campus currently has approximately 900 parking stalls, with 13 spaces designated as accessible. The parking lots are located on the north side of Novato Creek. There are 8 vehicular or pedestrian bridges providing access from the parking lots to the campus located on the south side of Novato Creek.

Existing Utilities

Water

The North Marin Water District owns and maintains the water main that follows the campus road. The water main is 16-inches in diameter along Ignacio Boulevard, and 12-inches along the campus loop road, with a water pressure of approximately 60psi. Much of the water main in the interior of the main campus is also owned by the NMWD. All fire hydrants and water meters tapped directly to the NMWD main are part of the NMWD system. There are existing backflow prevention devices and stubs for future connections on the NMWD main.

Regarding fire protection, the Fire Department has access to the main campus from several of the bridges from the parking lots across Novato Creek. They have expressed concerns about the integrity of the existing bridges. The bridges were constructed with a pile foundation and a wooden deck that was later rehabilitated to a concrete deck.
The outer roadway and fire hydrant loop are primarily for brush fire protection and protection of the outer perimeters of the buildings. The secondary water loop traversing the campus interior provides protection for the buildings facing the campus center. Because the Library is inaccessible to large vehicles, a dry standpipe system for fire protection was provided.

There is a graded access road along the ridge to the south of the campus that is maintained by the Marin County Fire Department to provide a first line of protection from brush fires originating from the south and west. It is intended to be accessible for four-wheel fire vehicles.

The swimming pool was provided with a fire hose connection at the perimeter road for an auxiliary 750,000 gallon water source.

**Sanitary Sewer**

The sanitary sewer main is a gravity system. The main runs privately west to east and increases in size from 4-inches in diameter at the Corporation Yard to 10-inches in diameter at Ignacio Boulevard. It ties to the existing public main in Ignacio Boulevard, which is owned by the Novato Sanitary District.

The sewer main crossing at Novato Creek was recently exposed due to erosion and replaced. With this exception, the campus sewer system has not had any major maintenance or any capacity issues.

**Storm Drainage**

From the 1980 Master Plan, the existing site was plagued with erosion problems due to complex topography, over-grazing, an aging forest, little new flora, unstable vertical walls as high as 20-feet, and unnatural concentrations of run-off due to grazing patterns.

The original site development plan attempted to mitigate some of the erosion and increase safety by trimming trees severely undercut by erosion, pruning trees, installing concrete-filled sandbag check dams, adding erosion control planting, and piping storm drainage from the new campus to outfall at the least vulnerable sections of the stream beds. Special headwall structures were used at the stream bottom to dissipate the force of the water.

The stream bed has continued to erode around the Creek and the campus structures due to soft soil conditions. Gabions were constructed in two locations, but further mitigation efforts, such as additional check dams, should added.
Natural Gas

PG&E provides the natural gas service to the campus. The service is a 4-inch high pressure gas main. The gas main is located in a 10-foot wide non-exclusive easement up to the campus gas meter located at Power Plant #2. The gas pressure is reduced after the meter to 5-psi and distributed to most of the campus structures. The campus gas main is located in the loop road around campus. The campus distribution main is 6-inches in diameter at the meter, and reduces to as small as 2-inches.

Due to a gas leak, the gas connection to the Auto Body Shop was rerouted. The Shop now has a direct connection to the PG&E main and is on a separate meter.

The majority of the gas main along the southern portion of the loop road was poorly constructed. The campus maintenance staff is often repairing leaks. The gas main along the loop road should be inspected and replaced.

Power

Power Plant #1 houses the central plant equipment for the heat pump system serving the Ohloney Cluster and the Library. The mechanical equipment include two boilers, with two towers which provide both heating and air-conditioning services. It also contains an electrical transformer.

Power Plant #2 houses the central plant equipment for the heat pump system serving Pomo Cluster, Miwok Cluster, the Administration Building, and the Bookstore. The campus gas meter is also located at Power Plant #2.

Power Plant #3 houses the central electrical control and switchgear, and telephone switching equipment for the campus. The campus is powered by an existing 12 KV electrical service by Pacific Gas & Electric Company (PG&E). The remainder of the system is owned by the College. Though the power provided is 12KV, the cable is rated for 25 KV.

The campus electrical system is ducted underground with other communications systems conduits such as telephone and fire alarm. Because the ducts were sized for expansion to future Clusters, there should be sufficient spare capacity to accommodate future expansion and new systems. However, the integrity of ducts could have decayed over time, and should be reviewed.

References

Appendix D: Report of Landscape Architects

The landscape architecture firm of Royston Hanamoto Alley & Abey (RHAA) is headquartered near the Kentfield campus. The firm surveyed both campuses to assess the quality of the landscape both aesthetically and functionally. They were asked to look for opportunities to create or maintain special landscape settings, enhance the aesthetics and functionality of the campus, create “people places,” and enhance the natural and man-made character of the campuses, as well as contribute their planning expertise to design issues.
December 22, 2003

Mr. Gary Moriarty
3D/I
50 California Street, Suite 3150
San Francisco, CA 94111

Re: College of Marin Landscape Master Plan

Dear Mr. Moriarty:

The landscape for both campuses of the College of Marin should reinforce the framework and goals of the overall Master Plan concepts. RHAA has identified the issues of the current landscapes and recommendations for improvements that will support the mission of the recommended master plan improvements. These are detailed below:

INDIAN VALLEY CAMPUS:

Issues:
- Campus does not have a strong sense of arrival or entry.
- Pedestrian circulation/entries from the parking lot need to be clearer and more direct to key destinations.
• Identity of Central Quad/ mall needs to strengthened.

• Campus lacks central gathering areas both indoor and outdoor.

• Existing courtyards in the clusters are broken up into small disjointed spaces by the ramping system.

• Shrubs and groundcovers in courtyards are overgrown and past their life span.
Recommendations:

- Reinforce entry with native planting with color and texture.

- Increase directional signage in parking areas. Consider new bridges for more direct access to clusters.

- Develop central plaza/gathering node related to new building program to create a stronger sense of campus identity.

- Redesign interior landscapes in the clusters to create small plazas where students can gather. Provide seating, shade visual interest in these spaces.
- Replant shrub plantings. Consider contract growing of native cultivars from the site to protect the genetic integrity.

**Planting Design**

*Entry Identity Planting*
Establish a campus identity for the Indian Valley Campus by infilling stands of native Oak trees along the perimeter road and groves of Oaks in highly visible entrance areas to screen parking areas. In these areas, introduce broad swaths of native shrubs and groundcovers to create interest and texture at the entry.

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<thead>
<tr>
<th>Entry Area Plant List</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Name</strong></td>
</tr>
<tr>
<td><strong>Scientific Name</strong></td>
</tr>
<tr>
<td><strong>Trees</strong></td>
</tr>
<tr>
<td>Coast Live Oak</td>
</tr>
<tr>
<td>Quercus agrifolia</td>
</tr>
<tr>
<td>Valley Oak</td>
</tr>
<tr>
<td>Quercus lobata</td>
</tr>
<tr>
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</tr>
<tr>
<td>Manzanita</td>
</tr>
<tr>
<td>Arctostaphylos spp.</td>
</tr>
<tr>
<td>Mock Orange</td>
</tr>
<tr>
<td>Philadelphus lewisii</td>
</tr>
<tr>
<td>Wild Lilac</td>
</tr>
<tr>
<td>Ceanothus spp.</td>
</tr>
</tbody>
</table>
**Main Campus - Creek Planting**
Reinforce the native creek vegetation in areas where it is disturbed or degraded. This vegetation creates a natural gateway into the campus.

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<thead>
<tr>
<th>Creek Plant List</th>
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<td>Buckeye</td>
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<td><strong>Shrubs/Groundcover</strong></td>
</tr>
<tr>
<td>Clematis</td>
</tr>
<tr>
<td>Hazelnut</td>
</tr>
<tr>
<td>Honeysuckle</td>
</tr>
<tr>
<td>Sword Fern</td>
</tr>
<tr>
<td>California Wild Rose</td>
</tr>
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</table>

**Main Campus - Oak Groves**
Retain and protect the existing Oak groves. Add additional trees as required to reinforce the 'grove' feeling. Do not allow any development within the dripline of the trees.

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<tr>
<td>Valley Oak</td>
</tr>
</tbody>
</table>

**Main Campus - Bank Planting**
Vegetate sloped areas with native shrubs and groundcovers as well as compatible non-natives to extend the California landscape theme while providing protection against erosion. Many of the existing slopes have this palette, but the plant material is past its useful life span and is woody and leggy.
Central Mall Area
Enhance existing mall area with additional shade tree planting. Maintain the existing turf in this area.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
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<tbody>
<tr>
<td>Coyote Brush</td>
<td><em>Baccharus pilularis</em></td>
</tr>
<tr>
<td>Flannel Bush</td>
<td><em>Fremontedendron</em></td>
</tr>
<tr>
<td>Rockrose</td>
<td><em>Cistus spp.</em></td>
</tr>
<tr>
<td>Wild Lilac</td>
<td><em>Ceanothus griseus horizontalis</em></td>
</tr>
</tbody>
</table>

Intimate Garden Courtyards
Create smaller scale courtyard gardens. Apply more detail within planting palette and provide an interpretive element with botanical labeling.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese Pistache</td>
<td><em>Pistacia chinensis</em></td>
</tr>
<tr>
<td>Fraxinus raywoodii</td>
<td><em>Raywood Ash</em></td>
</tr>
<tr>
<td>Coast Live Oak</td>
<td><em>Quercus agrifolia</em></td>
</tr>
<tr>
<td>Maidenhair Tree</td>
<td><em>Ginkgo biloba</em></td>
</tr>
<tr>
<td>Turf</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffeeberry</td>
<td><em>Rhamnus californica</em></td>
</tr>
<tr>
<td>Strawberry Tree</td>
<td><em>Arbutus unedo</em></td>
</tr>
<tr>
<td>Western Redbud</td>
<td><em>Cercis occidentalis</em></td>
</tr>
<tr>
<td>California Fuchsia</td>
<td><em>Epilobium californica latifolia</em></td>
</tr>
<tr>
<td>California Rose</td>
<td><em>Rosa californica</em></td>
</tr>
<tr>
<td>Fleabane</td>
<td><em>Erigeron spp.</em></td>
</tr>
<tr>
<td>Lavender</td>
<td><em>Lavandula spp.</em></td>
</tr>
<tr>
<td>Monkey Flower</td>
<td><em>Mimulus spp.</em></td>
</tr>
</tbody>
</table>
Enhanced Meadow Planting
Hydroseed open areas with a native meadow wildflower and grass seed mix appropriate to the character of the individual site.

KENTFIELD CAMPUS

Issues:
- Campus lacks identity / visibility on Sir Francis Drake Blvd with major intersection being occupied by a tacqueria.
- Tall shrubs under Redwoods along Sir Francis Drake blocks views into campus.
- Pedestrian access needs to be clearer and more gracious. Access from parking lots is poor. Visual connections to Corte Madera Creek are blocked by fencing and structures on pedestrian bridge.
- Few nodes exist where people can congregate informally.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sage</td>
<td>Salvia spp.</td>
</tr>
<tr>
<td>Sunrose</td>
<td>Helianthemum nummularium</td>
</tr>
<tr>
<td>Wild Lilac</td>
<td>Ceanothus spp.</td>
</tr>
<tr>
<td>Wild Buckwheat</td>
<td>Eriogonum spp.</td>
</tr>
<tr>
<td>Yarrow</td>
<td>Achillea millifolium</td>
</tr>
</tbody>
</table>
• Streetscape along College Avenue lacks continuity and interest.

• Visual connections between buildings and to Mount Tamalpais have been blocked by under story plantings.

• Shrub plantings detract from beauty of specimen trees

• Campus lacks cohesive image in its lighting and site furniture.

**Recommendations:**

• Create primary gateway at corner of Sir Francis Drake and College Avenue.

• To increase visibility of the campus, remove shrubs under story along Sir Francis Drake and replace with low groundcover planting.

• Create major pedestrian spine through main campus arcing from the new entry to the major crossing along College Avenue. Establish system of trees, lights paving and benches along this axis to unify the campus. Open up the bridge along this access to allow pedestrians to view the creek.
- Develop nodes/courtyards at key pathway intersections to invite informal gatherings. Create new seating area at the Learning Resources building and at the intersection of the paths at Harlan and Learning Resources.
• Add informal amphitheater at Student Services to create additional opportunities for gathering and to reinforce axis of Mount Tamalpais.

• Remove tall shrubs that block view lines across campus. Remove none specimen trees that clutter the landscape.

• Develop system of site furniture, lighting, and paving to create a unified identity

Planting

The Kentfield campus has mature well-established plantings that in many instances are some of the best examples of their species in the area. However, the under story plantings have obscured the beauty of these specimen trees. Low groundcovers should replace larger shrubs in many areas including the Redwood groves.

<table>
<thead>
<tr>
<th>Redwood Understory</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wild ginger</td>
<td>Asarum caudatum</td>
</tr>
<tr>
<td>Polystichum munitum</td>
<td>Western swordfern</td>
</tr>
<tr>
<td>Vinca major</td>
<td>Periwinkle</td>
</tr>
</tbody>
</table>

The western portion of the campus around the Science Center lacks any cohesive identity. The introduction of a strong spine of trees along the proposed pedestrian corridor would provide structure.

<table>
<thead>
<tr>
<th>Pedestrian Spine</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trees</td>
<td></td>
</tr>
<tr>
<td>Acer rubrum</td>
<td>Red Maple</td>
</tr>
<tr>
<td>Carpinus betulus fastigata</td>
<td><em>Hornbeam</em></td>
</tr>
<tr>
<td>---------------------------</td>
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</tr>
<tr>
<td><em>Celtis sinensis</em></td>
<td><em>Hackberry</em></td>
</tr>
</tbody>
</table>

**Conclusion**

The landscape of the two campuses of College of Marin should be upgraded to reinforce the educational mission of the campuses. The campuses should be redesigned to encourage learning through improved opportunities for interaction and to improve the public image of the College of Marin.

Sincerely yours,
Royston Hanamoto Alley & Abey

![Signature](Cordelia L. Hill, ASLA)
Appendix E: Report of Architects

Kaplan McLaughlin Diaz (KMD) was assigned the responsibility to assess both campuses for the aesthetic issues of the buildings and recommend basic design guidelines, materials and colors, etc., for new buildings and major renovations involving facade modifications. KMD also contributed to the planning concepts and determination of opportunities to create “people places” and enhance “sense of place” that is generally lacking.

The following report combines the work of KMD and RHAA as is fitting to a campus environment.
Appendix F: Preliminary Framework for Design Guidelines

Introduction

KENTFIELD CAMPUS. All of the buildings designed and constructed for the College of Marin at Kentfield through 1965 were of similar design. It is not known if there were original architectural guidelines. Study of the design of the buildings from beginning until the mid 1960’s [when the Diamond Physical Education Center was built] suggests that there was at least a self imposed restraint by the architects. There is reason to believe that the style that evolved for the first buildings was derived from the Tamalpais Center which was purchased for the College and was its first permanent structure. None of the buildings constructed after 1965 made much pretense of harmonizing with the original buildings. The icon building for the original style was the Harlan Hall which was demolished in 1961. Surviving examples of the style include Fusselman Hall and the Administrative Services Center.

Analysis of the existing examples of the original architectural style and especially of pictures of the original Harlan Hall suggests a hybrid style that begins with the traditional Missionesque style of the times (as illustrated by the Tamalpais Center), includes images of the Stanford loggias and campanile, and adds the modern style of the times which was Art Deco. For lack of a better name, the original style has been referred to as “Art Deco..."
Contents

- INTRODUCTION
- INDIAN VALLEY CAMPUS
- TEXT
- LANDSCAPE TEXT
- IMAGES
- KENTFIELD CAMPUS
- TEXT
- CAMPUS
- TEXT
- CAMPUS
INTRODUCTION

The Indian Valley Campus represents in many ways the opposite standing in the community. Established in 1970’s, Indian Valley was built in anticipation for the continued population growth in Marin County that was prevalent throughout the state. Fortunately Marin County did not subject itself to the suburban sprawl that has scarred many California communities, but this also has stunted the growth and identity of the Indian Valley Campus within the community. Entrusted with approximately 200+ acres of beautiful and pristine rolling Marin hills, the Indian Valley Campus was a bold design that was themed on blending architecture with the topography, climate and landscape—and in many ways is an early attempt at an ecological design. Unfortunately two major events have affected the perception of the campus negatively. First is the low utilization of the built facilities due to the population increase that never materialized. Second is the construction problem from a badly designed detail that eventually led to a law-suit settlement and the subsequent perception that all of the structures are flawed—which is incorrect.

However, as with the Kentfield Campus, there exists a wonderful opportunity and challenge to evolve the Indian Valley Campus alongside the needs of the community, though perhaps along a more unconventional route. Given the broad and adaptable roles of Community Colleges in our society, we see an opportunity for the Indian Valley Campus to create partnerships with other entities, both public and private. Leveraging its assets in physical property and as an educational institution, Indian Valley can become a catalyst for education, business and community service through the creation of an Education Village concept. Such institutions as San Francisco State University and (Name) Charter School are examples of such partnerships that are currently being implemented that create a critical mass for a center of excellence.

The challenge of the Indian Valley Master plan will be to explore and provide a vision and identity that could engage other entities on both the public and private realm, yet remain an educational and community asset for the college and Marin County. The challenge will be to evolve the existing design to fully realize its initial concept to complement its natural setting and be ecologically responsible.

The Kentfield Campus of College of Marin represents an established resource for the community. Started in 1926, it quickly evolved into a regionally recognized institution that provided education to the burgeoning population of Marin. Along with an established academic and community reputation, the campus also had the distinction of a cohesive and beautiful setting that was in keeping with the dramatic surroundings and landscape. Along with the legacy of the Kent Estate gardens, and a visionary campus master plan designed by Horace Cotton, the College of Marin was a classic “Spanish Revival” setting complete with graceful arcades, red-tiled roofs and a well planned setting that was tied with its landscape and focus on Mount Tamalpais.

However, in the 70’s and 80’s with the rapid demand for space and the unfortunate cut in construction and maintenance budgets, the original beauty and presence of the campus was compromised by the replacement of several key landmark buildings with stark “modernist” facilities that did not complement the exterior architecture nor the principles of the original master plan. Though functional, these buildings represent facilities that ignore the context and user comfort and are centered on architectural statements that do not reinforce the sense-of community and scale of the campus. Currently, the College of Marin is projecting minimal growth of their student population, but is in dire-need of redefining its role and standing in the community. Concurrently, the relevance of education has dramatically changed in the community due to the expectations of life-long-learning as it applies to changing technologies, mobility of communities and the pressures of learning new skills to adapt to new job opportunities. With these two opportunities, the potential and need for a visionary Master Plan for The College of Marin is a timely opportunity for the college and the community to create a partnership that will positively affect its identity and the bridging together of a community to its college.
Like the Kentfield Campus of the College of Marin, the master plan for the Indian Valley campus should be seen as a flexible framework for future development that can respond to inevitable changes in educational mission resulting in changes in the projected enrolment.

The 'cluster' arrangement of the Indian Valley campus provides a certain amount of inherent flexibility. The individual buildings and clusters can be used by different users each one having its own access from perimeter parking and service roads. The existing charter school, which currently utilises two out of four buildings in the Miwok cluster, is a case in point.

When the College of Marin determines the amount of space it requires to fulfil its educational mission in Novato, then it should anticipate a phased redevelopment of any of the buildings and/or clusters it retains. The existing buildings are in poor condition due largely to a lack of adequate maintenance. Reinvesting considerable sums of money in the rehabilitation of the existing structures may not make the best economic sense, particularly when comparing the quality of the teaching environments they will provide as compared to new construction.

The natural landscape setting for this campus is a great asset and should be protected and nurtured.

Any new construction should simply replace existing deficient buildings. If new construction pads are anticipated then they should be carefully sited so as not to detract from this special landscape made up of live and the nature of the climate and the natural setting one can imagine a greater connection between buildings and landscape with the provision of more 'indoor/ outdoor' linked spaces.
LANDSCAPE PLAN

Issues:
• Campus does not have a strong sense of arrival.
• Pedestrian circulation/entries from the parking lot need to be clearer and more direct to key destinations.
• Identity of Central Quad/mall needs to be strengthened.
• Campus lacks central gathering areas both indoor and outdoor.
• Existing courtyards in the clusters are broken up into small disjointed spaces by ramping system.
• Shrubs and groundcovers in courtyards are overgrown and past their life span.

Recommendations:
• Reinforce entry with native planting with color and texture.
• Increase directional signage in parking areas. Consider new bridges for more direct access to clusters.
• Develop central plaza/gathering node related to new building program to create a stronger sense of campus identity.
• Redesign interior landscapes in the clusters to create small plazas where students can gather. Provide seating, shade, visual interest in these spaces.
• Replant shrub plantings. Consider contract growing of native cultivars from the site to protect the genetic integrity.

Planting Design

Entry Identity Planting
Establish a campus identity for the Indian Valley Campus by infilling stands of native Oak trees along the perimeter road and groves of Oaks in highly visible entrance areas to screen parking areas. In these areas, introduce broad swaths of native shrubs and groundcovers to create interest and texture at the entry.

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<tr>
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<td></td>
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Shrubs/Groundcover

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<tbody>
<tr>
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Main Campus- Creek Planting
Reinforce the native creek vegetation in areas where it is disturbed or degraded. This vegetation creates a natural gateway into the campus.

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<table>
<thead>
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<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clematis</td>
<td>Clematis ligusticifolia</td>
</tr>
<tr>
<td>Hazelnut</td>
<td>Corylus cornuta var. californica</td>
</tr>
<tr>
<td>Honeysuckle</td>
<td>Lonicera hispidula var. vacillans.</td>
</tr>
<tr>
<td>Sword Fern</td>
<td>Polystichum munitum</td>
</tr>
<tr>
<td>California Wild Rose</td>
<td>Rosa californica</td>
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Retain and protect the existing Oak groves. Add additional trees as required to reinforce the ‘grove’ feeling. Do not allow any development within the dripline of the trees.

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</thead>
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</tr>
<tr>
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</tr>
<tr>
<td>Rockrose</td>
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<td>Wild Lilac</td>
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LANDSCAPE PLAN

Central Mall Area
Enhance existing mall area with additional shade tree planting. Maintain the existing turf in this area.

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<td>Coast Live Oak</td>
</tr>
<tr>
<td>Maidenhair Tree</td>
</tr>
<tr>
<td>Turf</td>
</tr>
</tbody>
</table>

Intimate Garden Courtyards
Create smaller scale courtyard gardens. Apply more detail within planting palette and provide an interpretive element with botanical labeling.

<table>
<thead>
<tr>
<th>Sample Zone F Plant List</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Name</strong></td>
</tr>
<tr>
<td>Trees</td>
</tr>
<tr>
<td>Coffeeberry</td>
</tr>
<tr>
<td>Strawberry Tree</td>
</tr>
<tr>
<td>Western Redbud</td>
</tr>
<tr>
<td>Shrubs/Groundcovers</td>
</tr>
<tr>
<td>California Fuchsia</td>
</tr>
<tr>
<td>California Rose</td>
</tr>
<tr>
<td>Fleabane</td>
</tr>
<tr>
<td>Lavender</td>
</tr>
<tr>
<td>Monkey Flower</td>
</tr>
<tr>
<td>Sage</td>
</tr>
<tr>
<td>Sunrose</td>
</tr>
<tr>
<td>Wild Lilac</td>
</tr>
<tr>
<td>Wild Buckwheat</td>
</tr>
<tr>
<td>Yarrow</td>
</tr>
</tbody>
</table>

Enhanced Meadow Planting
Hydroseed open areas with a native meadow wildflower and grass seed mix appropriate to the character of the individual site.
COLLEGE OF MARIN

TYPICAL COURTYARD AT INDIAN VALLEY CAMPUS

- Courtyard Defined
- Gathering Area
- Defined Landscaped Zone to Create Space

INDIAN VALLEY CAMPUS
The new master plan should be viewed simply as a flexible framework for future development on the campus. The main elements of the plan are:

- Improving identity and visibility at the main corner of Sir Francis Drake Boulevard and College Avenue.
- Relocating the existing ‘Taqueria’ restaurant, currently located on this corner, into a proposed ‘Main Street redevelopment’ would allow for the redevelopment of this key corner site so that the College can reflect a much improved identity and image to the community it serves.
- Engaging in a partnership with the County of Marin to propose a vibrant ‘College Avenue’ Main Street renovation that would benefit the College and the local community. New commercial buildings along College Avenue could create local-scale retail and generate revenue for the College as well as forming a street edge of buildings rather than surface parking.
- The new proposed ‘College Avenue’ Main Street improvements would extend down to the College of Marin gym and sports facilities linking them into a cohesive campus environment and improving the ‘college/community’ relationship.
- Improving visibility into the campus interior from Sir Francis Drake Boulevard and ‘restoring’ the axial view towards Mt.Tamalpais intended by the original master plan.
- A new pedestrian promenade arcing across the campus linking both sides of the campus across the creek forming a single coherent campus environment.
- A series of smaller scale informal ‘quadrangles’ that are linked by the new promenade connection across campus. These ‘quads’, each one different in scale and character, would form a hierarchy of outdoor social interaction spaces across the entire campus.
- Depending on the proposed enrolment projections for this campus, there are several opportunities to discretely add and/or replace buildings. According to the Building Conditions Assessment previously performed by 3DI, there are several buildings that should be replaced by new facilities that would better accommodate the teaching mission of the College in the 21st century.
- Any new buildings and/or additions would evoke the more ‘romantic’ style of the architecture of the 1930’s WPA style (eg. Fusselman Hall) rather than the bland modernism of the 1970’s buildings which succeed in visually fragmenting rather than unifying the campus.
- Existing buildings that do not help unify the campus visually, but may be too expensive to replace, can be ‘fronted’ with new additions that improve their appearance and functionality.
- Reinforce/ add connections across the Creek to create a campus that is not made up of two halves but of one unified whole.
- Create a social focus or ‘heart’ for the campus
- Add a new parking structure between the Science Building and the adjoining ‘Kentfield Market site’ to allow construction along College Avenue that would replace existing surface parking.
- New buildings/additions and landscape improvements should be designed to be consistent with realistic projections of future maintenance budgets.
- Not to increase vehicle access along existing local residential neighbourhood streets.
LANDSCAPE FOR KENTFIELD

Issues:
- Campus lacks identity/visibility on Sir Francis Drake Blvd with major intersection being occupied by a taqueria.
- Tall shrubs under Redwoods along Sir Francis Drake blocks views into campus.
- Pedestrian access needs to be clearer and more gracious. Access from parking lots is poor. Visual connections to Corte Madera Creek are blocked by fencing and structures on pedestrian bridge.
- Few nodes exist where people can congregate informally.
- Streetscape along College Avenue lacks continuity and interest.
- Visual connections between buildings and to Mount Tamalpais have been blocked by under story plantings.
- Shrub plantings detract from beauty of specimen trees.
- Campus lacks cohesive image in its lighting and site furniture.

Recommendations:
- Create primary gateway at corner of Sir Francis Drake and College Avenue.
- To increase visibility of the campus, remove shrubs under story along Sir Francis Drake and replace with low groundcover planting.
- Create major pedestrian spine through main campus arcing from the new entry to the major crossing along College Avenue. Establish system of trees, lights paving and benches along this axis to unify the campus. Open up the bridge along this access to allow pedestrians to view the creek.
- Develop nodes/courtyards at key pathway intersections to invite informal gatherings. Create new seating area at the Learning Resources building and at the intersection of the paths at Harlan and Learning Resources.
- Add informal amphitheater at Student Services to create additional opportunities for gathering and to reinforce axis of Mount Tamalpais.
- Remove tall shrubs that block view lines across campus. Remove none specimen trees that clutter the landscape.
- Develop system of site furniture, lighting, and paving to create a unified identity.

Planting

The Kentfield campus has mature well-established plantings that in many instances are some of the best examples of their species in the area. However, the under story plantings have obscured the beauty of these specimen trees. Low groundcovers should replace larger shrubs in many areas including the Redwood groves.
- Symbolic Entrance at the Corner of Sir Francis Drake & College Avenue
- Internal Circulation Campus Defined
- College Avenue as a District
- New Building to Define Placemaking Areas
- Clear Pedestrian Entrances into Campus

Legend:
- New Campus Building Development
- New Campus Pedestrian Thruway
- College Avenue as a Retail/Commercial District*
- Retail/Commercial/Mixed-Use Buildings to be Demolished
- Proposed Amphitheater

* Outside of Campus Scope of Work, Part of Future Urban Development
VIGNETTES

COLLEGE AVENUE AS A DISTRICT - MIX-USE RETAIL/COMMERCIAL, LEASABLE SPACE TO PUBLIC, STUDENT SERVICES

• Gateway
• Symbolic Entrance Plaza
• Clear Signage
• Anchor for the Campus
• College Avenue Integrated into the Campus
• Activate Street Through Retail and Commercial Developments
VIEW FROM WITHIN THE CAMPUS

OPENING VIEWS INTO THE CAMPUS AND MOUNT TAMALPAIS FROM SIR FRANCIS DRAKE

VEHICLE ENTRY OFF COLLEGE AVENUE - SIGNAGE CORNER, GATHERING AREA

COLLEGE OF MARIN

KENTFIELD CAMPUS
Internal Pedestrian Pathway

- New Pavement
- Gathering Spots Along the Pathway
- Clearer & Defined Pathway with Kiosk

PEDESTRIAN CENTRAL SPINE

FOCAL POINT HARLAN CENTER AND LEARNING RESOURCES
COURTYARD AT LEARING CENTER

OUTDOOR AMPHITHEATER IN FRONT OF STUDENT SERVICES

• Defined Space
• Water Fountain Area
• Amphitheater for Multi-Purposes
  • Concerts
  • Lectures
  • Ceremonial Space
Missionesque”. The elements of the original style were stucco, gable roofs of terra cotta tile, and loggias of semi circular arches resting on short classical columns with smooth shafts and carved capitols. The original buildings faced an irregular commons with an axis of the view of Mount Tamalpais. On the opposite side from the commons the buildings had formal, rectilinear courtyard gardens.

INDIAN VALLEY CAMPUS. All of the buildings at Indian Valley were designed and built at the same time, so they are all of the same style. The Neo Indian Valley style will blend with the original buildings but will be a new and contemporary version of the sustainable institutional building designed to blend in with the natural environment.

District

ARCHITECTURAL STYLE. Design guidelines are intended to influence development of compatible buildings and maintain unity and harmony while allowing the maximum possible freedom in design of individual buildings.

SUSTAINABILITY. All new buildings shall be of sustainable design, sufficient to meet the LEED™ gold category; modernized buildings shall be retrofitted to meet the LEED™ silver category.

ACCESSIBILITY. All new and modernized buildings and places on the campuses shall be designed to be accessible to the disabled according to the laws of the State of California.

CORNER STONES. All new and modernized buildings will have carved cast stone commemorative markers set permanently into the construction close to the main entrance. The marker will convey

- The name of the building
- The year of completion
- The names of the Trustees from project approval to project completion
- The name of the President / Superintendent
- The name of the architect
- The name of the general contractor

If a cast stone marker is not appropriate, a cast bronze marker mounted on a wall will be used in lieu of the stone marker.

FLEXIBILITY. Individual structures should be organized so that special fixed location services such as vertical circulation, rest rooms, and mechanical equipment are at the perimeter of open academic floor space.

UTILITIES SERVICE CORES. Buildings with a high demand for utilities, such as laboratories, generally will be served from centrally located service corridors.
EXTERIOR WALLS. The exterior design of all campus buildings are deemed to serve as the enclosing walls of outdoor spaces.

EXTERIOR MATERIALS. Building materials should be chosen which will weather to a handsome patina, withstand heavy use, and which will be available in the future.

EXTERIOR COLORS AND TEXTURES. For unity of aesthetic expression on the campus, exterior surfaces of all buildings are to be a light, neutral tone ranging from the white or off white to cream, to light tan or the pinkish tan brick on the Kentfield campus.

ROOFS. Sloped terra cotta tile roofs or standing seam metal roofs are preferred to flat roofs and parapets.

PAVING FOR WALKWAYS. An asphaltic concrete paving material will be used on walkways throughout the campus. Where appropriate the walkways should have brick or concrete edging.

INTERIOR COLORS AND TEXTURES. The color and texture of interior finishes should be selected to provide an appropriate visual environment.

Kentfield Campus

In the College of Marin community, there is a deep and pervasive yearning for the unity of the Original Campus Plan and architectural style. Generally, all new construction on the Kentfield Campus will honor the concepts of the Original Campus Plan and the original architectural style as interpreted in the contemporary version of the style referred to as “Neo Art Deco Missionesque.” The architecture of the buildings that violated the campus plan and the architectural style will be analyzed and remodeled so as to recapture the original style as much as possible. Material colors and roof revisions may be the only means to achieve this in some cases.

CAMPUS

- **GENERAL SITE**
  - Landscape
  - Parking and Traffic
    - Parking structures
    - Useable space on ground level
    - Study perch landings
    - Five levels maximum
    - “Missionesque” compatible style
  - Pedestrian Linkages
  - Perimeter Gateways and Portals
- **WAYFINDING SYSTEM**
- **UTILITIES**
  - Central Plant
Product criteria
Central Plant location
Distribution loop

TECHNOLOGY
ACCESSIBILITY

ARCHITECTURE

URBAN DESIGN
- Honor original campus plan
- Develop formal courtyards at buildings where possible
- Protect the neighborhoods as much as possible
- Develop College Avenue edge

BUILDINGS
- General
  - VIEWS OF MOUNT TAMALPAIS. Buildings should be designed to capture the views of Mount Tamalpais and these views should be in public spaces to the maximum degree possible.
  - CONNECTORS. All buildings should be connected to immediately adjacent buildings with architectural colonnades where possible.
  - LOGGIAS. All buildings should have a loggia on at least one north/south façade and one east/west façade.
  - ACCESSIBILITY. All new and modernized buildings shall be totally accessible to the disabled in accord with the laws of the State of California.
  - PERMANENCE. Structures and exteriors shall be of permanent and durable materials with permanent vertical transportation, mechanical cores, and electronic cable risers on perimeter of building
  - INTERIORS. Interiors shall be of construction that is easy to remodel.
  - THERMAL UTILITIES. All new and modernized buildings shall use thermal energy products from the Central Plant. If Central Plant utilities are not available, the mechanical rooms shall be oriented towards the future distribution loop, and mechanical systems will be designed to the Central Plant criteria.

- Style
  - NEW BUILDINGS are to be of the Neo Art Deco Missionesque style—contemporary but in harmony with the existing Fusselman Hall and the demolished original Harlan Hall.

  - Elements
    - Arcades
    - Classical columns (short)
    - Colonnades
    - Gable roofs
College of Marin
Facilities Master Plan

- Materials
  - Gray concrete
  - Tan brick
  - Terra cotta tile
  - Corten steel
  - Tan stucco

- MODERNIZED BUILDINGS
  - Materials
    - Existing
      - Capture newer buildings with
        - Colors
        - Roofs
    - New
      - Copper
      - Tan concrete coating
      - Tan stucco
        - Glazed tile logo
      - FEATURES
        - Maximum views of Mount Tamalpais especially for the public spaces
        - Accentuated entrances
    - ENVELOPE
      - Walls
      - Fenestration
      - Roof

- TECHNOLOGY

Indian Valley Environmental Education Park

COMMON CAMPUS

- GENERAL SITE
  - Honor the original plan
  - Honor the natural environment

- LANDSCAPE
  - General
    - Reinforce entry with native planting with color and texture.
    - Develop central plaza/ gathering node related to new building program to create a stronger sense of campus identity.
    - Replant shrub plantings. Consider contract growing of native cultivars from the site to protect the genetic integrity.

  - Planting Design
    - Entry Identity Planting
      - Establish a campus identity for the Indian Valley Campus by infilling stands of native Oak trees along the perimeter road and groves of Oaks in highly visible entrance areas to screen
parking areas. In these areas, introduce broad swaths of native shrubs and groundcovers to create interest and texture at the entry.

<table>
<thead>
<tr>
<th>Entry Area Plant List</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Name</strong></td>
</tr>
<tr>
<td>Trees</td>
</tr>
<tr>
<td>Coast Live Oak</td>
</tr>
<tr>
<td>Valley Oak</td>
</tr>
<tr>
<td>Shrubs/Groundcover</td>
</tr>
<tr>
<td>Coyote Brush</td>
</tr>
<tr>
<td>Bush Lupine</td>
</tr>
<tr>
<td>Manzanita</td>
</tr>
<tr>
<td>Mock Orange</td>
</tr>
<tr>
<td>Wild Lilac</td>
</tr>
</tbody>
</table>
• **Creek Planting**
  Reinforce the native creek vegetation in areas where it is disturbed or degraded. This vegetation creates a natural gateway into the campus.

<table>
<thead>
<tr>
<th>Creek Plant List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
</tr>
<tr>
<td><strong>Trees</strong></td>
</tr>
<tr>
<td>Big Leaf Maple</td>
</tr>
<tr>
<td>Box Elder</td>
</tr>
<tr>
<td>Buckeye</td>
</tr>
<tr>
<td>White Alder</td>
</tr>
<tr>
<td><strong>Shrubs/Groundcover</strong></td>
</tr>
<tr>
<td>Clematis</td>
</tr>
<tr>
<td>Hazelnut</td>
</tr>
<tr>
<td>Honeysuckle</td>
</tr>
<tr>
<td>Sword Fern</td>
</tr>
<tr>
<td>California Wild Rose</td>
</tr>
</tbody>
</table>

• **Oak Groves**
  Retain and protect the existing oak groves. Add additional trees as required to reinforce the ‘grove’ feeling. Do not allow any development within the drip line of the trees.

<table>
<thead>
<tr>
<th>Oak Grove Plant List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
</tr>
<tr>
<td><strong>Trees</strong></td>
</tr>
<tr>
<td>Coast Live Oak</td>
</tr>
<tr>
<td>Valley Oak</td>
</tr>
</tbody>
</table>
• **Bank Planting**

Vegetate sloped areas with native shrubs and groundcovers as well as compatible non-natives to extend the California landscape theme while providing protection against erosion. Many of the existing slopes have this palette, but the plant material is past its useful life span and is woody and leggy.

<table>
<thead>
<tr>
<th>Native Bank Planting Plant List</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
</tr>
<tr>
<td>Shrub/Groundcovers</td>
</tr>
<tr>
<td>Coyote Brush</td>
</tr>
<tr>
<td>Flannel Bush</td>
</tr>
<tr>
<td>Rockrose</td>
</tr>
<tr>
<td>Wild Lilac</td>
</tr>
</tbody>
</table>

• **Central Mall Area**

Enhance existing mall area with additional shade tree planting. Maintain the existing turf in this area.

<table>
<thead>
<tr>
<th>Central Mall Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
</tr>
<tr>
<td>Trees</td>
</tr>
<tr>
<td>Chinese Pistache</td>
</tr>
<tr>
<td>Fraxinus raywoodii</td>
</tr>
<tr>
<td>Coast Live Oak</td>
</tr>
<tr>
<td>Maidenhair Tree</td>
</tr>
<tr>
<td>Turf</td>
</tr>
</tbody>
</table>
• **Intimate Garden Courtyards**

Create smaller scale courtyard gardens. Apply more detail within planting palette and provide an interpretive element with botanical labeling.

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffeeberry</td>
<td><em>Rhamnus californica</em></td>
</tr>
<tr>
<td>Strawberry Tree</td>
<td><em>Arbutus unedo</em></td>
</tr>
<tr>
<td>Western Redbud</td>
<td><em>Cercis occidentalis</em></td>
</tr>
<tr>
<td><strong>Shrubs/Groundcovers</strong></td>
<td></td>
</tr>
<tr>
<td>California Fuchsia</td>
<td><em>Epilobium californica latifolia</em></td>
</tr>
<tr>
<td>California Rose</td>
<td><em>Rosa californica</em></td>
</tr>
<tr>
<td>Fleabane</td>
<td><em>Erigeron spp.</em></td>
</tr>
<tr>
<td>Lavender</td>
<td><em>Lavandula spp.</em></td>
</tr>
<tr>
<td>Monkey Flower</td>
<td><em>Mimulus spp.</em></td>
</tr>
<tr>
<td>Sage</td>
<td><em>Salvia spp.</em></td>
</tr>
<tr>
<td>Sunrose</td>
<td><em>Helianthemum nummularium</em></td>
</tr>
<tr>
<td>Wild Lilac</td>
<td><em>Ceanothus spp.</em></td>
</tr>
<tr>
<td>Wild Buckwheat</td>
<td><em>Eriogonum spp.</em></td>
</tr>
<tr>
<td>Yarrow</td>
<td><em>Achillea millifolium</em></td>
</tr>
</tbody>
</table>

• **Enhanced Meadow Planting**

Hydro seed open areas with a native meadow wildflower and grass seed mix appropriate to the character of the individual site.
• PARKING AND TRAFFIC
  o One overall system
  o Park Administration (the “Park”) provides and maintains parking
  o Park provides and maintains entrance and loop roads

• WAYFINDING SYSTEM
  o One overall system and style for park
  o Commons
    ▪ Park provides standard
    ▪ Park provides common signage
  o Individual Institutions
    ▪ Provide their own signage
    ▪ Conform to Park standard
    ▪ Customize for individual institution

• PEDESTRIAN LINKAGES. The Park provides and maintains walkways on the Commons.

• CENTRAL PLANT. There is one overall heating and cooling system. The Park provides and maintains central plant and distribution lines

• SHARED (COMMON) BUILDINGS. The Park provides and maintains the Common buildings.
  o Library
  o Student life center
  o Amphitheater and clock tower
  o Community and conference center
  o The “Quad”
  o The Park Administration Building

• TECHNOLOGY. The Park provides common infrastructure backbone or easements for those of individual institutions as necessary

INDIVIDUAL CAMPUSES

• SITE
  o General
    ▪ Honor the original plan
    ▪ Honor the natural environment
    ▪ Siting of new buildings to connect the clusters
  o Landscape
    ▪ Use natural and native plants
    ▪ Use other plants as desired in courtyards
  o Parking and Vehicular Access—Provided by the Park
  o Pedestrian Linkages Tie into Commons

• PERIMETER GATEWAYS AND PORTALS

• WAYFINDING SYSTEM
  o External Signage
    ▪ Provide in accord with the Park standard
    ▪ Individualize as desired for the Institution
  o Internal Signage as desired by the Institution
• UTILITIES
  o Central Plant Products or
  o Conformance to Central Plant
    ▪ Conform to product criteria
    ▪ Conform to distribution loop location

• TECHNOLOGY
  o Park System if available, or
  o Separate System by institution, as necessary

• ACCESSIBILITY REQUIRED OF ALL AREAS AND BUILDINGS

ARCHITECTURE

• URBAN DESIGN
  o Honor the original plan
  o Honor the natural environment

• BUILDINGS
  o General
    • Accessible design
    • Sustainable design
    • Permanent and durable exteriors with permanent vertical transportation, mechanical cores, and electronic cable risers on perimeter of building
    • Flexible interiors
    • Mechanical rooms oriented towards future distribution loop
  o Style
    • New style chosen by individual Institutions; approved by the Park
    • Existing buildings maintained in original style with optional colors by individual Institutions; approved by the Park
  o Features
    • No flat roofs
    • Loggias
    • Accentuated entrances
  o Envelope as determined by individual Institutions; approved by the Park
    • Walls
    • Fenestration
    • Roof

• TECHNOLOGY
  o Interfaces with the Commons
COLLEGE OF MARIN CAMPUS (AT INDIAN VALLEY)

- **SITE**
  - General
    - Honor the original plan
    - Honor the natural environment
  - Landscape
    - Use natural and native plants
    - Use other plants as desired in courtyards
  - Parking and Vehicular Access--provided by the Park
  - Pedestrian Linkages Tie into Commons
  - Perimeter Gateways and Portals

- **WAYFINDING SYSTEM**
  - External Signage
    - Provide in accord with the Park standard
    - Individualize as desired for the Institution
  - Internal Signage as desired by the Institution

- **UTILITIES**
  - Central Plant Products or
  - Conformance to Central Plant
    - Conform to product criteria
    - Conform to distribution loop location

- **TECHNOLOGY**
  - Park System if available, or
  - Separate System by Institution, as necessary

- **ACCESSIBILITY REQUIRED OF ALL AREAS AND BUILDINGS**

- **ARCHITECTURE**
  - Urban Design
    - Honor the original plan
    - Honor the natural environment
  - Buildings
    - General
      - Accessible design
      - Sustainable design
      - Permanent and durable exteriors with permanent vertical transportation, mechanical cores, and electronic cable risers on perimeter of building
      - Flexible interiors
      - Mechanical rooms oriented towards future distribution loop
    - Style
      - New style chosen by individual Institutions; approved by the Park
      - Existing buildings maintained in original style with optional colors by individual Institutions; approved by the Park
• Materials
  • Permanent materials (no wood)
  • Gray green paint
  • Dark forest (chromium) green trim

• Features
  • No flat roofs
  • Loggias
  • Accentuated entrances

• Envelope as determined by individual Institutions; approved by the Park
  • Walls
  • Fenestration
  • Roof

• TECHNOLOGY
  o Interfaces with the commons
Appendix G: Sustainable Architecture

All Sophistication comes full circle: first untutored simplicity, then complexity, and then later a more sophisticated (and complex) return to simplicity; first, the natural, then the artificial, and then a sophisticated return to the natural.

John Gardner
Secretary of Health, Education, and Welfare

Introduction

Sustainability means achieving satisfying lives for all within the limited capacity of the planet. It is a global issue that has local consequences and a local solution. In the County of Marin Countywide Plan this definition is repeated in the context of Marin: “Sustainability requires managing all households—individual, community, national, and global—in ways that ensure that our economy and society can continue to exist without destroying the natural environment on which we all depend.”

Sustainable Architecture

Sustainable architecture is one important way that individuals, corporations, institutions, and their governments can contribute to the solution. Deciding to build sustainable buildings presents both philosophical and technological challenges. James Lovelock’s theory that all life on Earth is interconnected in a closed system has been made into a practical and applicable approach called the “Natural Step”, by a Swedish physician named Karl-Henrik Robert. Another challenge is the need to think about building projects in terms of long term and maintenance costs rather than initial cost alone.

LEED™ System

The Leadership in Energy and Environmental Design Program (LEED™) developed by the U. S. Green Building Council (www.usgb.org) provides a rating system that helps provide definitive standards for what constitutes a “green” or sustainable building. The system evaluates Landscape and Site Issues, Structural Materials, Building Envelope, Building Finishes, Heating, Ventilation, Air Conditioning and Lighting, and On-site Power Generation and Water Treatment. The ultimate goal is to construct buildings that have “zero impact” on the environment by eliminating everything that flows in or out of the building and its site. Such “off the grid” buildings are possible at present, but still largely represent a theoretical goal.
The LEED™ rating system allows for a project to be designed as close to the theoretical goal as possible at the moment.

Marin Tradition

The tradition of environmental responsibility is a long and strong one in Marin County. It is reflected in the County of Marin’s government (Marin County Countywide Plan at www.future-marin.org) and in its individuals. For instance, it is said that there are more solar electric homes in Marin County than anywhere else in the country.

In addition to the tradition of environmental stewardship in Marin, there is the fact that the original buildings of the College of Marin campus prior to the 1960’s employed many of the principles of sustainable design.

“Green” Premium

Some say that “green” buildings mean more costly buildings. Several years ago the State of California established a Sustainable Building Task Force to assess the costs and benefits of constructing green buildings in California. The latest report from the commission based on the costs of 33 green buildings in the United States and the cost of energy, water, and waste disposal in California indicates that it costs about 2 percent more on average—or $3 to $5 per square foot for commercial construction—to construct a green building than to construct one using conventional “least initial cost” methods. This “green premium” yields savings of more than 10 times the initial investment—$50 to $75 per square foot during the life of a building (20 years for this report). This is considerably lower than the conventional wisdom of five years ago which placed the “green Premium” at 5 to 15 percent. The report concludes that designing to the LEED™ Gold level—the next to the highest—makes the most financial sense.

Good stewardship of public funds mandates construction of sustainable buildings for public institutions. Recently, the State of California’s Education Building was awarded the Gold LEED™ plaque.

Guiding Principles

Some Guiding Principles for SUSTAINABLE ARCHITECTURE at the College of Marin are these:

- Continue tradition of landscape and heritage trees.
- Seek LEED™ Gold certification for all buildings.
- Build thinner and taller buildings.
- Build long term structures and exteriors
- Build photo voltaic roofs.
• Build energy efficient buildings in accordance with the California Energy Code (Title 24).
• Construct a central heating and cooling plant and distribution system.
• Locate mechanical rooms, toilet rooms, and vertical access/egress facilities on the exterior of the building.
• Build HV/AC systems that use natural ventilation to the maximum degree possible.
• Use the College of Marin architecture as a learning resource.

Conclusion

The time, place, and people are right for the development of sustainable institutional architecture to be built in Marin County. The College of Marin should be the leader in this effort. The proposed Architectural Design Guidelines and Landscape Design Guidelines for the College should include the requirements for sustainable design.

It is important that the next new building be an icon building that exhibits the new architectural vocabulary rooted in the original architectural style. This building should also demonstrate the College’s commitment to sustainable architecture. This will be an important project with far reaching influence. It will deserve a noted environmental designer. The building may rival the importance of Marin’s Frank Lloyd Wright designed Government Center.
Appendix H: A Strategy for Utilization of the Indian Valley Campus

“The overall goal [of the original campus master plan] is to produce a Campus that is singularly harmonious in its design concept while providing an environment that is capable of adapting to the continually changing functional requirements of a community college. It is also hoped the plan will instill a love and respect for the environment it has endeavored to create and preserve.”

Indian Valley Colleges: A Master Plan, 1980
Neptune & Thomas Associates, Architects

Introduction

A complete community college campus was designed and built from scratch at Indian Valley in the north Marin County area. It was completed in 1975. The projected growth in population that the Indian Valley Colleges campus was planned to serve never occurred. Presently, many people doubt that it ever will. At this moment there is a campus with facilities for 2,500 FTE students (5,000 head count) and their cars that is significantly underused.

It is critical that a means of using the campus be found. The successful strategy will be very different from the original mission of general education at the Indian Valley Campus; but the strategy should also keep the potential for that original mission to be fulfilled, as well. There will be growth in the north Marin County through the years, even if it is much slower than once projected. The strategy for the time being must be one of qualitative change rather than quantitative growth. The right qualitative strategy will bring quantitative increases. These quantitative increases will justify the development of general education at the site.

The students needed for the full utilization of this campus that is “not on the way to any where” must be drawn to this campus from elsewhere. One way this can happen is if there are unique educational programs provided that use the magnificent physical environment and serene setting of Indian Valley. Some of these students would come from Marin County, but for the most part, they would probably come from other areas—Northern California, California in general, and the Western United States.
Present Situation

The College of Marin has already acted to use the Indian Valley Campus in some new ways that further education generally both for the County as a whole and for the North County in particular. At the lower end of the education spectrum the College is leasing space for the Marin School of Arts and Technology, a charter high school. At the upper level of education there is a College initiative to bring San Francisco State University or a similar institution onto the campus to provide upper level and graduate course work. These actions suggest a strategy of an “educational park” using the resources of other institutions to build and staff the various schools and related organizations. There has also been interest in developing a health and wellness center on the campus that could be shared with the community.

Existing Resources

GENERAL. The County of Marin is known for its strong interests in the environment (and stewardship, thereof), in fine arts, in personal fitness, and in outdoor sports and recreation. These interests and the unique qualities of the Indian Valley Campus environment suggest a theme for a specialized educational park. The theme could be “a healthy body, mind, and spirit in a healthy environment”. This theme suggests an “environmental education center”—for life education in, for, and of the natural environment.

The College officially states at present that it is “committed to targeted credit and non-credit programming which responds to distinctive regional interest and needs in areas of health, wellness, culture, environment, and technology”.

What do the College of Marin and the Indian Valley Campus have with which to work in order to create such an environmental education center?

COLLEGE OF MARIN. The College has a great set of resources both physical and programmatic already in place for establishing such a themed center:

- The initial actions already taken and described in PRESENT SITUATION above.
- The natural environment of the campus—a 333-acre California oak-bay grove of exceptional beauty in a remarkable valley adjacent to an immense public open space preserve.
- The mystique of the Indian cultures that lived in the valley and from which the campus name was derived. The Indians were themselves
stewards of the environment. Lawrence Halprin, the landscape architect for Sea Ranch, drew from the Pomo Indians’ philosophy of “Live lightly on the land” when he designed the site for that project.

- A complete array of campus facilities carefully designed with the environment as a major determinant. The campus was designed in the period of time when Sea Ranch was designed and built, when the first Earth Day occurred, and when Design with Nature by Ian McHarg was published. The buildings of the campus are prescient in their “greenness” and “sustainability”. [Refer to Appendix J.]

- A feeling of bucolic retreat, monastic cloister, and health resort.

- A superior “Career Education Center” already in existence and built around the Automotive Technology and Automotive Collision Repair Technology programs, as well as the Machine and Metals Technology, Welding, Medical Assisting, and Court Reporting programs.

- A splendid Multimedia Studies program located literally over the hill from the Lucas Ranch.

- A Marine Biology Laboratory at Bolinas across the mountain from the campus. This facility is reportedly the only such facility at a community college in the entire United States.

The Career Education Center can be augmented by transferring the other career programs to Indian Valley from the Kentfield Campus. This will free up some space at the Kentfield Campus and will help populate the Indian Valley Campus. The career programs that could be transferred are these:

- Dental Assisting
- Nursing (registered)
- Environmental Landscape Design
- Architecture (sustainable design in conjunction with Environmental Landscape Design)
- Computer Technician Certification

These already existing and applicable academic course offerings could be taught at Indian Valley:

- Anthropology department:
  ANTH 215 Native Americans of California
- Architecture department:
  ARCH 130 Introduction to Architecture and Environmental Design
- Art department:
  ART 170, 171, 270, 271 Ceramic
- Biology department:
  BIOL 138 Introduction to Environmental Science
  BIOL 143 Stewardship of Marin Parks and Open Space
BIOL 148 Marin County Agriculture
BIOL 159 Introduction to Aquatic Biology
BIOL 163 Ecology of Estuaries
BIOL 170 Biology of Marine Animals
BIOL 234 Fishery Biology
BIOL 235 General Marine Biology
BIOL 237 Marine Ecology Field Studies
BIOL 254 Environmental Microbiology
BIOL 245 Field Ecology of Marin

- Ethnic Studies department:
  ETST 151 Native American History

- Geography department:
  GEOG 101 The Physical Environment
  GEOG 116 Field Geography, Marin County

- Geology department:
  GEOL 103 Environmental Geology
  GEOL 109 General Oceanography
  GEOL 127 Geologic Studies of Marin County
  GEOL 128 Geologic Studies of Pt. Reyes and the San Andreas Fault
  GEOL 138 Introduction to Environmental Science

- Psychology department:
  PSY 251 The Brain: Mind and Body

SAN FRANCISCO STATE UNIVERSITY. SFSU could bring these course offerings to the “Center” in its first phase, to be housed in the Ohlone Cluster.

- Business
  o BBA
  o MBA
  o Executive MBA

- Environmental Studies

- Anthropology
  o Local Indian cultures
  o Museum of local Indian cultural artifacts

- Museum Management

- Fine Arts

MARIN COUNTY. The tradition of environmental stewardship in Marin County is outstanding. This stewardship is built into the governance mechanism as seen on the Marin County web site.
Implementation

DEVELOP CONCEPT

- Design the institution ("the Environmental Educational Center") and name it (e.g. "College of Marin Environmental Education Center at Indian Valley")

- Structure the institution legally.
  - Mission
  - Covenants
  - Deeds or Leases (99 years)
  - Organization and management
  - Etc.

- Endow the institution
  - Establish an agent for "E pluribus unum".
  - Agent to be manager of shared resources
    - Administrative Services Center
    - Parking
    - Commons (e.g. roadways, walkways, landscape, utilities, etc.)
    - Existing buildings not in College of Marin campus
    - Conference and Community Center
    - Library
    - Student Life Building
    - Amphitheater
    - Campus Green
    - Bolinas Marine Biology Laboratory

- Prepare the campus plan and surveys
  - Define areas
  - Commons
  - College of Marin at Pomo Cluster
  - San Francisco State University at Ohlone Cluster
  - Others
  - List potential “other” institutions desired to maximize the “Center”

- Remodel all existing buildings [Refer to Appendix J]
  - Remove extraneous architectural details.
  - Remove screen walls and fences.
  - Re-roof with standing seam metal.
  - Add metal sunscreen / wall roofs in lieu of existing sunscreens.
  - Install new H/VAC systems in buildings.
  - Install rain collector systems for all buildings.
  - Build new elevator and stair components for each cluster.

- Announce and market the concept / the “Environmental Education Center”.

- Consolidate College of Marin in the “Pomo Cluster”.

- Consolidate existing functions and programs.
• Transfer existing career programs from Kentfield to IVC.
• Relocate applicable academic course offerings from Kentfield to IVC.
• Articulate programs, academic courses, etc., with San Francisco State University and others to maximize theme.
• Develop specialized housing for the center (on or off the campus)
• Develop summer residency programs (art, writing, music, dance, drama, etc.)
• Develop a health and wellness center for education lab, student life, and community health; use the existing recreational sports facilities.
• Locate other institutions for the center
• Expand the College of Marin general education transfer curriculum as demand builds in the area

Summary

The College of Marin Environmental Education Center at Indian Valley could employ the existing resources, experience, and thought invested in the Indian Valley Campus to develop a state and nationally recognized nexus for environmental research, study, and service. This concept would be a “magnet school” drawing students from all over northern California, California, and the western United States. The activity would generate students to support the evolution of the original mission of providing community college access to the students in the North Marin County area. Students at all levels of education for high school to graduate school would receive an education in an atmosphere of sound mind, body, and spirit in a milieu of stewardship of the Earth in a remarkably beautiful natural environment of ocean, mountain, sky, and trees. The Center would be a vanguard effort and a prototype campus for meaningful and relevant education.
Appendix I: The Reuse of the Existing Building at Indian Valley Campus

The Problem

The Master Plan for the Indian Valley Colleges of the College of Marin was adopted by the Board of Trustees in 1973. It was the fifth version and resulted from a process that began in 1968. The initial campus was planned for 2,500 FTE students with area for expansion to 5,000. This represents a head count of approximately 5,000 and 10,000 students respectively.

College A (now the Ohlone complex) was planned as the College of Social and Behavioral Sciences and was designed for approximately 700 students; College B (now the Miwok complex) was planned as the College of Arts and Humanities and was designed for 900, and College C (now the Pomo complex) was planned for the College of Natural and Physical Sciences and designed for 1,000. Two larger additional complexes of 1,200 each were allowed for with a third future site reserved for a student body grown considerably larger. The three complexes total approximately 130,000 gross square feet.

There were 838 parking spaces constructed for the 2500 FTE student body and its faculty and staff. Original plans called for adding only 480 additional spaces for the 5,000 students of the future.

The land for the Indian Valley Campus was purchased in 1966. Of the 333 acres only 113 acres are at 20% or less slope and only 69 acres are at 10% or less slope. The campus was designed within the area of 20% or less slope.

There is a large capital investment at this campus, which is mostly unused or, at the very least is highly under used.

The Conventional Wisdom

The projected population that the Indian Valley Campus was planned for never occurred; at present people doubt that it ever will. To make matters worse, the entire campus was shut down in 1985 to make structural repairs. The laminated timber beams exposed to the weather were delaminating. Lawsuits followed and repairs were made. The nature of such lawsuits produced a restored version of the original design with the exposed beams protected with copper caps. After a couple of years the campus reopened, but what momentum that had once been was lost. Anecdotal discussions tell of people in Novato who to this day do not know the campus is again open.
The experience was so traumatic to all who were directly involved that a conventional wisdom concerning the campus developed. There has even been talk of tearing the buildings down and/or selling the land. Tenets of this conventional wisdom are these:

- The campus is a poor design; the college clusters (“pods”) were a failure. The pods are too far apart.
- The buildings were poorly designed and wood should never have been used for their construction.
- The buildings are educationally inadequate.
- The buildings are not safe and are falling apart.
- The buildings are a hopeless maintenance nightmare.

The idea of demolishing the buildings is based on these tenets: Presumably, if the campus was demolished, the parking and the Physical Education complex would remain. The demolition of the other structures would be a write off of more than $50,000,000 replacement value at just a moment in time when capital for public projects is difficult to get.

**The Facts**

The facts relative and contrary to this conventional wisdom are these:

- *The pods are no further apart than the single building pattern of a regular campus. The longest walk is less than ten minutes.*

- *The aesthetic of the architecture is highly “green” (sustainable) and very appropriate; it “touches the land very lightly” with few foundations having been carved into the Earth. Much thought went into this design.*

- *Wood is a perfectly good material, especially for low rise construction in an area of seismic likelihood. However, wood must be protected from the weather (the rain). The “universal solvent”, water, is hard on wood and everything else organic. This is why all architecture begins with a structure to hold up a roof to keep the water off of man and his possessions.*

- *Wood is not an innately poor choice for this design. There are wood buildings in New England that are still standing after 400 years.*
• The decision to paint the walls was a wise one. The fundamental purpose of paint is to protect wood. The color of the paint chosen was unfortunate.

• The stairs and walkways are all of wood and are unprotected. Most have been replaced once, and will undoubtedly be replaced again in the not too distant future.

• The buildings are ready to use with minimal renovation and remodeling. The 28 feet “universal grid” provided by the laminated beam structure makes the entire interior highly flexible for serious remodeling as needed in the future.

• The structural problem was apparently limited to the architectural aesthetic detail of false cantilevered beams at each corner of every building, and not to the actual structure of the buildings.

• This mostly aesthetic corner detail did have a functional purpose of carrying the intricate wood grille sunscreens. These wooden sunscreens are now past their life span having been exposed to the weather for thirty years.

• The buildings were designed in a universal structural grid of 28 feet square. The interiors are totally flexible for remodeling.
A Solution

The buildings can readily be fixed and reused:

- The architectural detail of the false cantilevered corner beams should be removed along with all of the failing sunscreens. The corner detail of the real beams can be covered with a galvanized steel connector. The sunscreens can be replaced with galvanized steel brackets that carry a continuous metal roof that serves both as the sunscreen and a roof to keep water off of the walls.

- The wooden shake roofs are failing, too, after thirty years, which is about their normal life span. These roofs can easily be replaced with galvanized steel standing seam roofs. These roofs would eliminate a great deal of the threat from fire that presently exists. They could also serve as rain catching roofs.

- The campus has an operational central plant; the HVAC equipment in each building can be replaced with one that can be maintained. New systems are much more efficient than those of thirty years ago.

- The buildings could be painted an appropriate color(s).

- The wooden stairs could be replaced with galvanized steel stairs, and the ADA nonconforming ramps could be replaced with a typical elevator module at each complex.

- The prismatic shapes of the stair and elevator components and the cylindrical form of the rain storage cisterns could be a new architectural feature of the campus.

- The mechanical systems (heating and air conditioning) in the buildings should be replaced with new state of the art, energy efficient equipment.

Conclusion

The existing buildings at Indian Valley are a considerable resource. They are not falling down and can readily be used as the initial facilities of the “environmental education park”. All of the buildings should be re-roofed for capital preservation. As part of the re-roofing project, the false corner details and sunscreens should be removed and replaced with a continuous metal roof that can serve as sunscreen and roof. Repainting in appropriate colors should also be considered. Each cluster should have its own color.

The Pomo Cluster should be completely remodeled to serve as the campus for the College of Marin at Indian Valley.

New buildings of a different but harmonious design can be built adjacent to the clusters or on sites where buildings are demolished.