APPLICATION FOR FEDERAL ASSISTANCE
(NONCONSTRUCTION PROGRAMS)
PART I

1. STATE CLEARINGHOUSE IDENTIFIER
N/A

2. APPLICANT'S APPLICATION NUMBER
N/A

3. FEDERAL GRANTOR AGENCY
U.S. Office of Education (Environmental General)
ORGANIZATIONAL UNIT
Application Control Center
ADMINISTRATIVE OFFICE
400 Maryland Avenue, SW.
STREET ADDRESS - P.O. BOX
Washington, D.C. 20202
CITY STATE ZIP CODE

4. APPLICANT NAME
SANTA BARBARA COMMUNITY COLLEGE DISTRICT
DEPARTMENT DIVISION
721 CLIFF DRIVE
STREET ADDRESS - P.O. BOX
SANTA BARBARA
CITY SANTA BARBARA
COUNTY
CALIFORNIA 93109
STATE ZIP CODE
Employer ID #941-1048-3

5. DESCRIPTIVE NAME OF THE PROJECT
Resource Material Development (Determination of the desirable
scope, organization, curricula, and staffing for Environmental Studies in the California
Community College system).

6. FEDERAL CATALOG NUMBER
13.522

7. FEDERAL FUNDING REQUESTED
$ 13,800

8. GRANTEE TYPE
☐ STATE, _______ COUNTY, _______ CITY, _______ OTHER (Specify) Community College

9. TYPE OF APPLICATION OR REQUEST
☐ NEW GRANT, _______ CONTINUATION, _______ SUPPLEMENT, _______ OTHER CHANGES (Specify)

10. TYPE OF ASSISTANCE
☐ GRANT, _______ LOAN, _______ OTHER (Specify)

11. POPULATION DIRECTLY BENEFITING FROM THE PROJECT
In excess of 1,000 students per/year.

12. CONGRESSIONAL DISTRICT
☐ 13th Congressional District
☐ Statewide and selected western states

13. LENGTH OF PROJECT
One year

14. BEGINNING DATE
July 1, 1974

15. DATE OF APPLICATION
March 4, 1974

16. THE APPLICANT CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF THE DATA IN THIS APPLICATION ARE TRUE AND CORRECT, AND THAT HE WILL COMPLY WITH THE ATTACHED ASSURANCES IF HE RECEIVES THE GRANT.

TYPED NAME
GLENN G. GOODER

TITLE
Superintendent-President

TELEPHONE NUMBER

AREA CODE NUMBER EXTENSION
805 965-0581 351

SIGNATURE OF AUTHORIZED REPRESENTATIVE

For Federal Use Only

Enc. 3 3/14/74
## PART II

### PROJECT APPROVAL INFORMATION

**ITEM 1.**
Does this assistance request require State, local, regional, or other priority rating?
- [ ] Yes
- [x] No

**Name of Governing Body**

<table>
<thead>
<tr>
<th>Priority Rating</th>
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</table>

**ITEM 2.**
Does this assistance request require State, local, advisory, educational or health clearances?
- [ ] Yes
- [x] No

**Name of Agency or Board**

<table>
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<tr>
<th>(Attach Documentation)</th>
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**ITEM 3.**
Does this assistance request require clearinghouse review in accordance with OMB Circular A-95?
- [ ] Yes
- [x] No

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<th>(Attach Comments)</th>
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**ITEM 4.**
Does this assistance request require State, local, regional, or other planning approval?
- [ ] Yes
- [x] No

<table>
<thead>
<tr>
<th>Name of Approving Agency</th>
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<tr>
<th>Date</th>
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**ITEM 5.**
Is the proposed project covered by an approved comprehensive plan?
- [ ] Yes
- [x] No

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<tr>
<th>Check one:</th>
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<tbody>
<tr>
<td>[ ] State</td>
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<td>[ ] Local</td>
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<tr>
<td>[x] Regional</td>
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<tr>
<th>Location of Plan</th>
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**ITEM 6.**
Will the assistance requested serve a Federal installation?
- [x] Yes
- [ ] No

<table>
<thead>
<tr>
<th>Name of Federal Installation</th>
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<table>
<thead>
<tr>
<th>Federal Population benefiting from Project</th>
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</table>

**ITEM 7.**
Will the assistance requested be on Federal land or installation?
- [x] Yes
- [ ] No

<table>
<thead>
<tr>
<th>Name of Federal Installation</th>
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<table>
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<tr>
<th>Location of Federal Land</th>
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<tr>
<th>Percent of Project</th>
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**ITEM 8.**
Will the assistance requested have an impact or effect on the environment?
- [x] Yes
- [ ] No

See instructions for additional information to be provided. **Beneficial environmental education effect on future generations of students,**

**ITEM 9.**
Will the assistance requested cause the displacement of individuals, families, businesses, or farms?
- [ ] Yes
- [x] No

<table>
<thead>
<tr>
<th>Number of:</th>
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<tbody>
<tr>
<td>Individuals</td>
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<tr>
<td>Families</td>
</tr>
<tr>
<td>Businesses</td>
</tr>
<tr>
<td>Farms</td>
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**ITEM 10.**
Is there other related assistance on this project previous, pending, or anticipated?
- [x] Yes
- [ ] No

See instructions for additional information to be provided.
### PART III - BUDGET INFORMATION

#### SECTION A - BUDGET SUMMARY

<table>
<thead>
<tr>
<th>GRANT PROGRAM, FUNCTION OR ACTIVITY</th>
<th>FEDERAL CATALOG NO. (b)</th>
<th>ESTIMATED UNOBLIGATED FUNDS</th>
<th>NEW OR REVISED BUDGET</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Education</td>
<td>13.522</td>
<td>$13,800</td>
<td>None, see Sec. C $13,800</td>
</tr>
<tr>
<td>5. TOTALS</td>
<td>$13,800</td>
<td>$13,800</td>
<td></td>
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</table>

#### SECTION B - BUDGET CATEGORIES

<table>
<thead>
<tr>
<th>OBJECT CLASS CATEGORIES</th>
<th>GRANT PROGRAM, FUNCTION OR ACTIVITY</th>
<th>TOTAL</th>
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</thead>
<tbody>
<tr>
<td>a. PERSONNEL</td>
<td>College Education</td>
<td>$10,200</td>
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<tr>
<td>b. FRINGE BENEFITS</td>
<td></td>
<td>$</td>
</tr>
<tr>
<td>c. TRAVEL</td>
<td></td>
<td>$3,000</td>
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<tr>
<td>d. EQUIPMENT</td>
<td></td>
<td>$</td>
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<tr>
<td>e. SUPPLIES</td>
<td></td>
<td>$300</td>
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<td>f. CONTRACTUAL</td>
<td></td>
<td>$</td>
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<tr>
<td>g. CONSTRUCTION</td>
<td></td>
<td>$</td>
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<tr>
<td>h. OTHER</td>
<td></td>
<td>$300</td>
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<tr>
<td>i. TOTAL DIRECT CHARGES</td>
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<td>$13,800</td>
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<tr>
<td>j. INDIRECT CHARGES</td>
<td></td>
<td>$</td>
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<tr>
<td>k. TOTALS</td>
<td></td>
<td>$13,800</td>
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<tr>
<td>7. PROGRAM INCOME</td>
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<td>$</td>
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HEW-509T
**SECTION C - NON-FEDERAL RESOURCES (See Note)**

<table>
<thead>
<tr>
<th>(a) GRANT PROGRAM</th>
<th>(b) APPLICANT</th>
<th>(c) STATE</th>
<th>(d) OTHER SOURCES</th>
<th>(e) TOTALS</th>
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<td>10.</td>
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<td>(Note: 100% federal funding requested for paragraph 183.5 of Proposed Rules, Federal Register, V. 39, n. 21, p. 3893, which provides for 100% federal funding for curriculum development projects.)</td>
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<td>11.</td>
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<tr>
<td>12. TOTALS</td>
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**SECTION D - FORECASTED CASH NEEDS**

<table>
<thead>
<tr>
<th>(a) FEDERAL</th>
<th>TOTAL FOR 1ST YEAR</th>
<th>1ST QUARTER</th>
<th>2ND QUARTER</th>
<th>3RD QUARTER</th>
<th>4TH QUARTER</th>
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<tbody>
<tr>
<td>$13,800</td>
<td>$5,000</td>
<td>$5,000</td>
<td>$2,000</td>
<td>$1,800</td>
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<tr>
<td>NON-FEDERAL</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>TOTALS</td>
<td>$13,800</td>
<td>$5,000</td>
<td>$5,000</td>
<td>$2,000</td>
<td>$1,800</td>
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**SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT**

<table>
<thead>
<tr>
<th>(a) GRANT PROGRAM</th>
<th>(b) FIRST</th>
<th>(c) SECOND</th>
<th>(d) THIRD</th>
<th>(e) FOURTH</th>
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<tbody>
<tr>
<td>None anticipated for this specific project.</td>
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<td>$</td>
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**SECTION F - OTHER BUDGET INFORMATION (attach additional sheets if necessary)**

21. DIRECT CHARGES: See Attached.

22. INDIRECT CHARGES:

23. REMARKS:

PART IV - PROGRAM NARRATIVE (attach 2nd instruction)
SECTION F - OTHER BUDGET INFORMATION


Personnel Salaries for 6a. (Total commitment of time and total salary to be charged to the project for each member of the project and staff cited in Part IV.)

Project Supervisor. Professor Phil G. Olsen. One fourth time for a period of twelve months at $600 per month.

Total salary ........................................... $7,200

Salaries for research, clerical, and drafting assistance as required on a part time and hourly pay basis.

Total amount required ................................. $3,000

(Note: Prof. Olsen, the Project Supervisor, will be on sabbatical leave from Santa Barbara City College during the period of the requested grant and will be receiving three fourths of his normal salary during this period. It is anticipated that the Project Supervisor will devote one fourth of his time to the project as described in the attached narrative of the grant request.

Travel. One essential part of this grant request is that the Project Supervisor be able to research and evaluate environmental studies literature, experience, and curricula at a number of academic, governmental, and civic institutions. This will entail necessary travel to specified California two and four year colleges, other selected western states institutions, and one trip to Washington to visit appropriate agencies in that city.

Total travel amount required ......................... $3,000

Supplies.

Total supplies required .............................. $300

Other.

Total other expenses required ...................... $300

Grand total all salaries and expenses ............. $13,800
DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PROTECTION OF HUMAN SUBJECTS
CERTIFICATION

STATEMENT OF POLICY: Safeguarding the rights and welfare of human subjects involved in activities supported by grants or contracts from the DHEW is the responsibility of the institution which receives or is accountable to the DHEW for the funds awarded for the support of the activity. In order to provide for the adequate discharge of this institutional responsibility, it is the policy of the Department that no grant or contract for an activity involving human subjects shall be made unless the application for such support has been reviewed and approved by an appropriate institutional committee. (Reference: "Institutional Guide to DHEW Policy on the Protection of Human Subjects.")

1. TITLE OF PROPOSAL: Resource Material Development (Determination of the desirable scope, organization, curricula, and staffing for Environmental Studies in the California Community College system.)

2. PROJECT DIRECTOR/PROGRAM DIRECTOR/FELLOW
   Phil G. Olsen, Coordinator
   POSITION TITLE: Environmental Studies

3. INSTITUTIONAL COMPONENT OR DEPARTMENT
   Santa Barbara City College

4. CHECK ONE OF THE FOLLOWING STATEMENTS AS APPLICABLE:

☐ A. This application does not propose any activities that would involve human beings who might be considered subjects, human material, or personal data from primary or secondary sources.

☐ B. This is to CERTIFY that this application which does propose activities involving human subjects has been reviewed and approved by our institutional committee on the date of [insert date].
   in accordance with the DHEW policy and the institutional assurance on file with the DHEW. (The review date should be recent; certification is invalid if review date would precede award date by more than one year.)

☐ C. This is to CERTIFY that this application which proposes to involve human subjects is pending review on the date of [insert date].
   in accordance with the DHEW policy and the institutional assurance on file with the DHEW. If the committee does not review and approve the proposal by or on the date certified, the agency office requesting this certification will be notified immediately by telephone, telegraph, or mail. (Review date should precede requested or planned date of award by at least one month whenever possible.)

☐ D. This application proposes to involve human subjects. This institution does not now have an active assurance on file with the DHEW. I understand that information on the assurance procedure will be received should the application become eligible for an award.

5. SIGNATURE OF INSTITUTIONAL OFFICIAL AUTHORIZED TO SIGN PROPOSAL

[Signature]

DATE
March 4, 1974

6. TITLE
GLENN G. GOODER, Superintendent-President

TELEPHONE NO. (Code, No., Extension)
(805) 965-0581, Ext. 351.352

7. NAME AND ADDRESS OF INSTITUTION [Street, City, State, ZIP code]
SANTA BARBARA CITY COLLEGE
721 Cliff Drive, Santa Barbara, California 93109

NOTE TO AGENCY: This form should NOT be included with application forms that have provision for human subject certification. It may be used to request certification, or correction of certification.

HEW 596 (Formerly NIH 1611)
8-72

GSA DC 74.6702

ENCLOSE THIS FORM WITH THE PROPOSAL OR RETURN IT TO THE AGENCY REQUESTING ITS COMPLETION
ASSURANCE OF COMPLIANCE WITH THE DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE REGULATION UNDER
TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

SANTA BARBARA COMMUNITY COLLEGE DISTRICT
(Name of Applicant)

HEREBY AGREES THAT it will comply with title VI of the Civil Rights Act of 1964 (P.L. 88-352) and all requirements imposed by or pursuant to the Regulation of the Department of Health, Education, and Welfare (45 CFR Part 80) issued pursuant to that title, to the end that, in accordance with title VI of that Act and the Regulation, no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Applicant receives Federal financial assistance from the Department; and HEREBY GIVES ASSURANCE THAT it will immediately take any measures necessary to effectuate this agreement.

If any real property or structure thereon is provided or improved with the aid of Federal financial assistance extended to the Applicant by the Department, this assurance shall obligate the Applicant, or in the case of any transfer of such property, any transferee, for the period during which the real property or structure is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits. If any personal property is so provided, this assurance shall obligate the Applicant for the period during which it retains ownership or possession of the property. In all other cases, this assurance shall obligate the Applicant for the period during which the Federal financial assistance is extended to it by the Department.

THIS ASSURANCE is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, contracts, property, discounts or other Federal financial assistance extended after the date hereof to the Applicant by the Department, including installment payments after such date on account of applications for Federal financial assistance which were approved before such date. The Applicant recognizes and agrees that such Federal financial assistance will be extended in reliance on the representations and agreements made in this assurance, and that the United States shall have the right to seek judicial enforcement of this assurance. This assurance is binding on the Applicant, its successors, transferees, and assignees, and the person or persons whose signatures appear below are authorized to sign this assurance on behalf of the Applicant.

Dated March 4, 1974

721 CLIFF DRIVE
SANTA BARBARA, CALIFORNIA 93109
(Applicant's mailing address)

HEW-441
(12-64)

SANTA BARBARA COMMUNITY COLLEGE DISTRICT

(Applicant)

By, GLENN G. GOODER, Superintendent-President
(President, Chairman of Board, or comparable authorized official)
DETERMINATION OF THE DESIRABLE SCOPE, ORGANIZATION, CURRICULA, AND STAFF FOR ENVIRONMENTAL STUDIES AT THE CALIFORNIA COMMUNITY COLLEGE LEVEL

I. OBJECTIVES AND NEED FOR ASSISTANCE:

A. ENVIRONMENTAL ISSUES REQUIRING SOLUTION. Recent events in world society appear to emphasize the need for environmental studies at all levels of the educational system. During the past five years, the trustees, administration, and faculty at Santa Barbara City College have attempted to respond to that need with an environmental studies program.

While much has been written concerning environmental studies at the college level (See Appendix A for an abbreviated environmental studies bibliography) and some good environmental curricula for community colleges and for the training of environmental technicians have been published (See particularly the environmental studies curriculum published by Miami-Dade Junior College and Guidelines for the Preparation of Environmental Technicians published jointly by OMDT, EHS, and HEW.) there are still many problems which confront this particular community college in regards to environmental studies. Specifically, the problems which require solutions are:

1. What should be the scope of environmental studies for terminal, transfer, vocational, and continuing (adult) education students in the California community college system?

2. What is the appropriate organization for an environmental studies program at the California community college level?

3. What is the optimum curriculum for environmental studies at California community colleges?

4. What is the optimum staffing.
B. Each of these environmental questions listed above and which require solutions is briefly discussed.

1. What should be the Scope of an Environmental Studies Program in the California Community College System?

Subdivisions of this question are:

a. What are the responsibilities of the community college in regards to environmental education for these students who terminate their education at or during the thirteenth or fourteenth year? Those students who do not aspire to use environmental studies as a route to environmentally oriented careers also require a certain degree of environmental education. As parents, teachers, businessmen, voters and community leaders, these non-professionals will have countless opportunities to make decisions affecting environmental quality. The scope of an environmental studies program for this category of students needs to be defined.

b. What responsibility does the community college have to train those students who wish to major in environmental studies both at the community college and when they transfer to four-year institutions?

Santa Barbara City College currently offers six courses with a distinctly environmental studies designation. (See Appendix A for brief description of these courses.) Two of these courses are in the social sciences, two are in the physical sciences and two are in the life sciences. These six courses articulate with the courses offered in the lower division environmental studies program at the University of California Santa Barbara,
a program widely acclaimed for its excellence in the environmental studies field. However, thorough study is needed to insure that transfer requirements are being met for all other students who transfer to other four year colleges in California and the nation.

c. What responsibility does the community college have to train technicians in specific areas of environmental control? National, state, and local needs for environmental technicians trained at the two year college level need to be determined. This is true both for the type of environmental vocational training required and the numbers of technicians trained in each of these specific environmental areas. (A somewhat time consuming attempt by Santa Barbara City College to obtain this information two years ago was not remarkably successful. See Appendix B.)

d. What responsibilities does the community college have for the environmental education of these persons in the adult community who are continuing their education at California community college facilities? It seems fundamental that an informed public is a necessary prerequisite to the determination of desired environmental quality. The scope of adult environmental education requires increased definition and implementation.

The next major category of environmental issues requiring solution relates to the appropriate organization for an environmental studies program at the junior college level.

2. What is the Appropriate Organization for an Environmental Studies Program at the Junior College Level? Anyone immediately involved with environmental education soon realizes that this endeavor requires an organization which goes beyond the competence of one discipline.
Therefore, traditional organization does not appear to meet the requirements of a viable environmental studies program.

Reviews of California community college catalogs indicate that there are no departments or divisions of environmental studies at this time. Certain four year institutions, the University of California at Santa Barbara (UCSB) for example, have "acting" departments of environmental studies. At UCSB the "department" is organized within the College of Letters and Sciences, under the direction of two co-chairmen, an executive committee, and an advisory committee. The department has an "executive officer" who has the primary responsibility of day-to-day operation of the "department." Neither of the two co-chairmen hold full time appointments in environmental studies. The experience at the University of California indicates that the advisory committee constitutes a pool of faculty talent in the environmental area which the co-chairmen can draw upon. However, indications available are that the advisory committee has not been deeply involved in the total conduct of the environmental studies program at UCSB. In turn, the co-chairmen, while both distinguished scholars and environmentalists, must divide their time with their own disciplines with a consequent loss to the environmental studies "department." The stewardship of the environmental studies program at UCSB is thus relegated to the executive officer, a teacher of extreme competence but one who has difficulty in achieving the necessary organizational recognition and funding for environmental studies. Much can be learned from programs like the University of California about environmental studies organization at four year institutions.
However, how such organization relates to the community college still awaits clarification. Specifically, the organizational questions posed center around whether environmental studies at community colleges be organized as an autonomous division or whether it can be effectively organized under existing and traditional divisional and departmental lines. Some have suggested that all multi-disciplinary studies, including environmental studies be organized or consolidated into one division. (This approach is currently being experimented with at California's College of the Canyons.) Quite obviously, the determination of the proper environmental organization is an issue of fundamental importance to a proper environmental studies program at the California community college and all relevant data and experience needs to be collected and evaluated.

3. **What is the Optimum Curriculum for Environmental Studies at California Community Colleges?**

   a. Environmental issues, concerned with curriculum and which require solution fall into categories. These are:

      1. What degrees of coordination between participating disciplines is necessary at California Community Colleges?

      2. What should be the rigor of an environmental studies program at the junior college level?

      3. What different groups of student clientele need be served by different environmental studies curricula?

      4. What should be the actual curriculum for each of these identified groups?

   b. Each of the issues noted in paragraph 3a are briefly clarified on the following page.
1. **Coordination.** The multi-disciplinary and multi-process nature of environmental studies requires far more coordination than the standard community college divisional (fixed disciplinary) curriculum. The lack of full multi-disciplinary effort exposes the student to a redundancy of course material (a concern in Santa Barbara City College's environmental studies program) and a loss of the intellectual cohesion necessary in studies of this type. Preliminary experience at some institutions indicates that team teaching of environmental studies, (required attendance of all teachers at the same lecture) does not seem to be fundamentally sound since it is very difficult for all teachers to consistently attend the same lectures. Meetings of concerned teachers is helpful but, at best, only a partial answer. The best methods of coordination at the junior college level needs further definition.

2. **Rigor.** The continuum between **specificity** and **generality** in environmental studies needs further clarification. Environmental studies is frequently considered to be an exercise in the totality of a problem area. In this respect, it is frequently difficult to expose students to a depth of a subject that would occur in any departmental major. Environmental studies students specialize in generalization. However, the degree to which this generalization should equate with college-level sophistication remains an open question. That is, how strenuously should environmental studies courses attempt to attain the competence of all of its component disciplines. The question of rigor in each phase of the community college environmental studies curriculum deserves increased research attention.
3. Curriculum for each group of student clientele.
Problems of curriculum associated with environmental studies in the California Community Colleges require analysis of curriculum for at least four categories of student clientele.

a. Environmental studies curriculum for those students who plan to terminate their college studies during or at the end of the 13th or 14th year. While many of the Santa Barbara City College's environmental studies curricular offerings would benefit this student, it is felt that further study of curricular needs in this area is warranted.

b. Environmental studies curriculum for the environmental studies major who plans to matriculate in this discipline at a four-year institution. Some progress has been made at Santa Barbara City College in regard to curriculum for environmental studies majors who wish to transfer in this discipline. Current environmental studies curriculum at Santa Barbara City College is comprised of six courses. As previously mentioned, these include two courses in the Social Sciences, two in the physical sciences, and two in the life sciences. (See Appendix A for a brief description of each of these courses.) These six courses are patterned after and articulate with the courses at the University of California-Santa Barbara. At the present time, some effort is being made to present these courses in a multi-disciplinary manner. However, considerably more coordination and interchange of faculty must occur before the totality of environmental studies offerings could, in any sense, be referred to as a multi-disciplinary-process-oriented environmental studies program. This school needs to determine the experience at other institutions in order to provide enlightened guidance for our environmental studies transfer curriculum.
c. Environmental studies curriculum for those students who desire to pursue a two-year environmental technician program. Santa Barbara City College does not currently have any offerings directed specifically toward the training of environmental technicians. Several attempts have been made to determine the need for such technicians on a federal, state, and local level. Reports of need were conflicting and confusing. (See, for example, the internal communications between Santa Barbara City College's Research Office and the Santa Barbara City College Superintendent-President and Board of Trustees dated April 25, 1972. A copy of this communication is included as Appendix B.) As a result, Santa Barbara City College still does not have the required information necessary to determine whether or not a vocational program for environmental technicians is warranted at this specific college.

d. Environmental studies curriculum for continuing (adult) education. Santa Barbara City College is proud of the strides it has made in environmental education for the adult community. Many classes, seminars, and workshops, have been conducted, some of which have featured such environmental luminaries as the Honorable Stewart Udall, Governor Tom McCall, and others of similar stature. Curriculum development thus seems to be satisfactorily advancing in this area and does not require the amount of information and reform as the three previous categories.

4. What Staffing is Appropriate for an Environmental Studies Program at the Community College Level?

Multi-disciplinary-process-oriented environmental studies appear to require a wide range of academic expertise in both the arts and the sciences for the proper teaching
of environmental studies subject matter. Four-year institutions have had considerable difficulty in staffing "environmental studies" departments due to the fact that it is frequently necessary for faculty members to make favorable impressions in the departments of their parent disciplines. This is necessary in order that they will be able to survive a rigorous academic review and promotion system. Thus, professors in four-year institutions have shown some reluctance to teach in innovative multidisciplinary programs such as environmental studies. While community colleges do not have such a rigorous academic review and promotion policy, any broad-spectrum synthesizing effort such as environmental studies runs full tilt into all those vested interests of more traditional organization.

Moreover, any attempt to organize an "Environmental Studies Department" would create a host of staffing problems. Such a department which offered what each branch of learning considered relevant to the environmental education would necessarily be a large and unwieldy department. Representatives would be needed from nearly all teaching disciplines, and in many instances, their teaching duties would be minimal since some fields do not offer as many insights concerning the environment as do others.

In short, the proper staffing for community college environmental studies at Santa Barbara City College needs to be determined in the light of information which may, hopefully, be gleaned from the literature and from the experience of other schools.

**Narrative Summary.** The foregoing paragraphs have attempted to state and briefly discuss the environmental issues of the scope, organization, curriculum, and staffing for an environmental studies program at Santa Barbara City College. These are environmental issues which require solution at this institution, and quite probably, at many other California Community Colleges.

Because of an environmentally-aware citizenry, because of its unique
environment, because of such environmental catastrophes as the 1969 oil spill, because of the location of three environmentally-oriented institutions of higher learning, and because of many additional factors, Santa Barbara has been called the "Environmental Capital of the World." The Board of Trustees, the administration, and the faculty at Santa Barbara City College are making every effort to uphold this ethic in their part of the educational system. However, to date, the proper scope, curriculum, and direction of this effort has been difficult to determine. This college is now of the opinion that sufficient research, statistical data, and experience are available with which to design a pattern for an exemplary environmental studies program for Santa Barbara City College and perhaps for other California Community Colleges. This grant request seeks monetary support for the collection, evaluation, and construction of such an environmental studies pattern.

II. PARTICIPANTS INVOLVED
A. Dr. Glenn G. Gooder, Superintendent-President, Santa Barbara City College, Project Administrator.
B. Professor Phil G. Olsen, Coordinator of Environmental Studies, Santa Barbara City College, Project Supervisor.
C. Selected research, clerical, and drafting personnel as may be required, to be paid on a part-time and hourly basis.

III. PRINCIPAL OBJECTIVES
A. To determine the optimum scope of environmental studies at Santa Barbara City College as discussed in paragraph I.B.1.
B. To determine the appropriate organization for environmental studies at Santa Barbara City College as discussed in paragraph I.B.2.
C. To determine the best curriculum for each division of environmental studies at Santa Barbara City College as discussed in paragraph I.B.3.
D. To determine the desirable staffing for an environmental studies program at Santa Barbara City College as discussed in paragraph I.B.4.
IV. SUBORDINATE OBJECTIVES
To furnish other California Community Colleges any positive data which emerges in the published report of this study.

V. NEED FOR ASSISTANCE
The current demands on the time of key administrators and the day to day teaching demands on community college faculty precludes any of these personnel from being assigned to this project. Professor Olsen, the Coordinator for Environmental Studies at Santa Barbara City College, has indicated both a willingness and a strong desire to pursue this study during his sabbatical leave if a small amount of funding can be found to supplement his sabbatical salary and to cover the necessary and proper expenses.

VI. SUPPORTING DOCUMENTS AND TESTIMONIES
A. See Appendix A. Current Environmental Curricula at Santa Barbara City College.
B. See Appendix B. Internal Santa Barbara City College letter from Research Office to Superintendent-President, Board illustrating attempts to determine proper environmental studies curriculum over the past several years.
C. See Appendix C. Preliminary environmental studies bibliography. Many of the selections in this bibliography amplify the environmental problems requiring solution previously stated in this narrative.

VII. PLAN OF ACTION
A. Collection of all published data relative to the scope, organization, curriculum, and staffing applicable to environmental studies at the community college. (It is reported that many curriculum studies have been supported by funds provided by the Environmental Quality Act. These studies will all be collected and evaluated insofar as possible.)
B. Evaluation of published data.
C. A questionnaire will be designed and distributed to California Community Colleges in order to determine the perceived scope, organization, curriculum, and staffing in the California system.
D. Personal interviews will be conducted with California Junior College trustees, presidents, advisory boards, involved faculty, and other community and environmental leaders in search for answers to the problems set forth earlier in the narrative. Those colleges which indicate by their answers to the questionnaires that they have successful environmental studies programs will, of course, be given first priority for visits and interviews.

E. All available employment statistics will be collected from federal, state, and local agencies. Those statistics which relate to employment in the environmental technician field will be utilized as guidelines in developing the Santa Barbara City College environmental technician program.

F. The results of the foregoing will be published and distributed to those interested in community college environmental studies.

VIII. QUARTERLY PROJECTIONS TO BE ACHIEVED
January 1975 - March 1975. Curriculum development. Course of study outlines, etc.

IX. EXTRAORDINARY SOCIAL OR COMMUNITY DEVELOPMENTS
A. It is anticipated that this study will have far reaching and positive effects on the environmental education of many subsequent generations of students at Santa Barbara City College.

B. It is hoped that the study will become a model for the development of environmental studies at other California Community Colleges.
APPENDIX A

SANTA BARBARA CITY COLLEGE ENVIRONMENTAL STUDIES COURSES

EARTH SCIENCE 15/ENVIRONMENTAL STUDIES 1 - ENVIRONMENT: NATURAL RESOURCES, CONSERVATION, AND POLLUTION.

Course examines man's future in relation to his physical environment. The course emphasizes those earth processes which have a profound effect on the quality of life. These include the pollution of streams and oceans, the eutrophication of lakes, the consequences of flood and beach erosion, the meteorology of air pollution, and other geological hazards such as tsunamis, landslides, and earthquakes. The foregoing principles are applied to the Santa Barbara area as a total environmental unit.

BIOLOGY 2/ENVIRONMENTAL STUDIES 2 - TOPICS IN BIOLOGY

Selected topics in biology, covering the genetics of populations, adaptations of living things, ecological relationships, the history of life on earth, the impact of civilization on the environment and its implications.

HISTORY 28/ENVIRONMENTAL STUDIES 3 - AMERICAN ENVIRONMENTAL HISTORY

History, political science, economics and their uses in understanding man's attitude toward and management of the environment with concentration on the American Experience.

ECONOMICS 10/ENVIRONMENTAL STUDIES 4 - POLITICAL AND ECONOMIC ENVIRONMENTAL STUDIES

Case study approach to several environmental problems. Disciplines ranging from economics, political science, and geography are brought to bear on oil operations in the Santa Barbara Channel. The oil spill of 1969 receives special attention as a landmark in environmental philosophy and action. Other case studies explore current environmental controversies.

EARTH SCIENCE 16/ENVIRONMENTAL STUDIES 5 - NATURAL RESOURCES & ENERGY

Study of the formation, exploration, development, and judicious use of natural resources in relation to present and future materials and energy requirements.

BIOLOGY 12/ENVIRONMENTAL STUDIES 6 - MAN'S IMPACT ON NATURE

Study of growth, evolution and variations in populations of organisms, and their interactions with the physical environment. Emphasis is on the characteristics of living natural resources and changes brought on by expanding human populations and technological developments.
APPENDIX B

April 25, 1972

TO: Dr. Gooder, Members of the Board of Trustees

FROM: Tom MacMillan, Research Office

RE: Environmental Technician Manpower Needs

In an attempt to gather evidence of the manpower needs for Environmental Technicians in various technical specialties, a number of sources have been consulted over the past two years since interest in such a program has been developing at SBCC for at least that long.

In 1970, the need for air pollution control technicians was estimated by NAPCA to follow a pattern of "increase from approximately 2,480 in 1969 to an estimated 8,000 in 1974." On 28 December, 1970, the State Department of Human Resources Development distributed a Division Notice stating that "environmental control problems are approaching crisis proportions in California and the Nation." The notice continued:

It is anticipated that there will be a considerable shortage of qualified operators, technicians and aids to work in this field. For many of the occupations involved it will be possible to train the disadvantaged to provide them with meaningful employment and, at the same time, to permit them to make real contributions to society.

Subsequently, and continuing until the week of April 24, 1972, repeated attempts have been made to ascertain the level of need for various categories of manpower. The Local and Regional Offices of HRD have been unable to provide any firm estimates, since existing D.O.T. categories seem not to include the specific functions which are described in the training programs currently known (e.g., "Environmental Planning Technologist," "Noise Control Technician," etc.)

Mr. William Wagstaff, County Personnel Director, could provide no specific estimates of local governmental agency needs for Santa Barbara County as recently as April 18, 1972. On the state level, Regional Manpower Officer Dr. Bill Bishop could provide no specific estimates as of April 24, 1972. Nationally, John Samson of the Environmental Protection Agency in Washington, D.C. made the following comments April 24, 1972:

EPA is currently anticipating funding to train 500 Environmental Technicians in FY 72-73, primarily through short-term Manpower Development Training Programs of approximately 26 weeks duration.

The experience of two-year colleges seems to suggest that a full two-year training sequence is of no great advantage for entry level skills training, as compared with the MDTA approach.
APPENDIX B

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The Office of Management and Budget is encouraging only short term, particularly On-the-Job Training programs in the two areas of Waste Water and Water Treatment Operator only.

Until the States develop adequate definitions of task and appropriate certification or licensure procedures, the real estimate of need will continue to be difficult...
APPENDIX C

SELECTED BIBLIOGRAPHY OF HIGHER ENVIRONMENTAL EDUCATION


APPENDIX C

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APPENDIX C

Nash, Roderick. Environmental Studies: The Santa Barbara Experience, (University of California-Santa Barbara, 1973). This is a penetrating analysis of environmental studies problems and successes at a university which has earned wide recognition as a pioneer in this new and challenging discipline.


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Schoenfeld, Clarence, ed. Outlines of Environmental Education (Madison, Wis., 1971).


