I. Minutes: none.

II. Communication(s) and Announcement(s):

III. Reports:

   Regular reports:
   A. Academic Senate Chair:
   B. President’s Office:
   C. Provost:
   D. Vice President for Student Affairs:
   E. Statewide Senate:
   F. CFA Campus President:
   G. ASI Representative:

   Special report:

IV. Consent Agenda:

   Course proposals for College of Education and UNIV courses: Hannings, chair of Curriculum Committee. Proposals can be viewed at:
   - College of Education: [link]
   - UNIV courses: [link]

V. Business Item(s):

   A. Resolution on Proposal for the Establishment of the Global Waste Research Institute: Hanson/Yesiller, first reading (pp. 2-19). Entire proposal of 130 pages can be viewed at: [link]

   B. Resolution to Change Administrative Status for Recreation, Parks, and Tourism Administration Program: Hendrix, RPTA Program, first reading (pp. 20-21).

   C. Resolution on Modification to the Bylaws of the Academic Senate: Revision To Make the Position of Academic Senate Chair an At-Large Position: Executive Committee, first reading (pp. 22-23).

VI. Discussion Item(s):

VII. Adjournment:
RESOLUTION ON
PROPOSAL FOR THE ESTABLISHMENT OF
THE GLOBAL WASTE RESEARCH INSTITUTE

1. RESOLVED: That the Academic Senate of Cal Poly endorse the establishment of the Global Waste Research Institute as summarized in the attached proposal.
Global Waste Research Institute

Proposal to California Polytechnic State University

James L. Hanson and Nazli Yesiller

October 24, 2008
Contents

Introduction
   Background
   Rationale

Strategic Plan
   Objectives
   Mission Statement
   Institute Activities
   Thematic Research Areas
   Thematic Education Areas

Organization and Governance
   Governance
   Interim Director
   External Advisory Board
   Partner Organizations

Funding and Budget

Bylaws

Appendix

Appendix A: Letters of External Support
   Letter of Financial Support from Waste Connections Inc.
   Letter of Support from effENERGY LLC
   Letter of Support from Falcon Holdings Inc.

Appendix B: Letters of Support from Deans
   Dean Mohammad Noori – College of Engineering
   Dean Philip S. Bailey – College of Science and Mathematics
   Dean David Christy – Orfalea College of Business
   Dean David J. Wehner – Agriculture, Food and Environmental Sciences

Appendix C: Resumes
   Nazli Yesiller – Interim Director
   Bruce L. Golden – Executive Committee Member
   James L. Hanson – Executive Committee Member
   Jay Singh – Executive Committee Member
   Linda Vanasupa – Executive Committee Member
   Samuel A. Vigil – Executive Committee Member

Appendix D: Relevant Publications of Affiliated Faculty

Appendix E: Examples of Related Recent and Current Externally Funded Projects
   by Institute Faculty

Appendix F: Examples of Related Recent and Current Externally Funded Projects
   by Subject

Appendix G: Intellectual Property Policy
INTRODUCTION

Hundreds of millions of tons of wastes and byproducts are generated in the U.S. as well as many other parts of the world on an annual basis. The common categories of wastes are municipal solid waste (MSW), hazardous waste, agricultural waste, mining waste, medical waste, incinerator ash, electric power plant ash, and radioactive waste. These various categories of wastes contain contaminants that pose different levels of risk to human health and the environment. Byproducts are generated due to activities associated with all major industries (e.g., automotive, electronics, steel manufacturing, oil exploration, power generation, chemical manufacturing, packaging).

Significant advancements have been made in the management of wastes and byproducts in recent decades. Containment technologies have been developed in the U.S. in response to the promulgation of major environmental protection laws. Prescriptive designs for containment systems are used commonly due to the high regulatory involvement. Recycling of wastes and reuse of byproducts have also developed significantly in the U.S. While U.S. is a leader in the development of materials, designs, and construction schemes for containment applications, recycling and reuse has been underdeveloped in comparison to other industrialized countries. Ever increasing quantities of wastes require new and improved technologies for reduction, recycling, and reuse. Continual technological innovations and emergence of new industries also require development of new strategies and adaptation of existing methods for improved management of wastes and byproducts. Major examples of new and emerging industries that contribute to the new waste and byproduct streams include biotechnology, nanotechnology, and genetics. These industries produce and dispose of materials such as nano-particles and biological matter with properties and responses dramatically different than conventional materials. In addition, growing concerns on greenhouse gas emissions coupled with progress in the alternative energy industry require improvements in the existing waste and byproduct management methods. The large quantities of wastes and byproducts generated are major stressors for the containment infrastructure, in particular as the long-term effectiveness of these systems are not well known. Significant amounts of wastes and byproducts can be used/reused in a beneficial manner, if more efficiently managed. Overall, a significant need exists for focused research and development in the waste and byproduct management fields.

The Global Waste Research Institute is proposed to be established at California Polytechnic State University in San Luis Obispo (Cal Poly) to advance sustainable management and beneficial use of residual wastes and byproducts. The Institute will develop anticipatory solutions for sustainable management of wastes and byproducts in the 21st century. The formation of the Institute is timely and strategic to foster multidisciplinary approaches in research, development, education, and policy assessment and implementation. The rationale for establishing the Institute is provided below:

- Cal Poly has a critical mass of faculty members with expertise and interests in various topics related to waste management and recycling and reuse of wastes and byproducts. The majority of the current contributing faculty is from the College of Engineering with additional faculty members from the Colleges of Science and Mathematics; Agriculture, Food, and Environmental Sciences; Business; and
Architecture and Environmental Design (each of which may take lead position on a specific project).

• The Institute will represent the only example of its kind in California. Also, the Institute will be one of the very few waste and byproduct related institutes in the U.S. The proposed Institute differs from the other institutes due to its broadly encompassing mission, diversity of resources, and thematic research and education areas.

• The highest amount of wastes and byproducts on a per state basis in the U.S. is generated in California in proportion to the population and industrial activity. Preliminary contacts made with the California Environmental Protection Agency indicate strong interest in the Institute initiative. Similarly, regulatory activity and interest in technological advancements, alternative energy technologies, and reduction of emissions and associated use of carbon credits in California as well as globally provide potential support mechanisms for the Institute’s activities in these areas. Progressive attitudes and attributes in California for protection of the environment provide viable pathways for conducting successful research projects with high and sustainable impact.

• The Institute has established a priority for sustainability in its activities in line with the commitment of Cal Poly to pursue sustainability in teaching, research, professional service as well as campus life.

• The Institute will contribute significantly to graduate education, which is a focus area for strategic development for Cal Poly. Research projects conducted by Institute faculty will provide assistantship opportunities for students. The Institute will facilitate the development of a multidisciplinary Masters Program in Management of Wastes and Byproducts. Faculty members from the Institute will actively participate in teaching and student advising in the new program.

• The Institute will provide training for various stakeholders (students, professional community, regulators, general public) in sustainable waste and byproduct management in California and elsewhere, and contribute to the overall educational focus and Learn By Doing mission of Cal Poly.

• The Institute will establish working relations with foreign entities (including educational institutions, industry, and government agencies) to take advantage of complementary aspects of the expertise of researchers from Cal Poly and other countries as well as the research infrastructure within the university and of other countries. The Institute will promote joint research and educational studies as well as training programs with foreign countries supporting the global initiatives at Cal Poly.

• Recycling, reuse, and containment of wastes and byproducts affect all members of society. Advancements made in these fields through the activities of the Institute will provide sustainable use of resources and better environmental protection and thus, improve the well being of the public in California, in other states, and elsewhere in the global community.
A commitment for a significant amount of financial support for the Institute has been provided as detailed in Funding and Budget Section and Appendix A. In addition, two individuals, Mr. Robert Davis (Cal Poly – Math '65) and Dr. Nazli Yesiller (Lecturer and Volunteer Faculty, Civil and Environmental Engineering Department), have made significant commitments to the Institute initiative and have been working in collaboration to establish priorities and contacts for the Institute. Detailed information about Mr. Davis and Dr. Yesiller are provided in the next several sections.
STRATEGIC PLAN

The main objective of the Global Waste Research Institute (Institute) will be to develop comprehensive solutions to existing and emerging issues in management of large quantities and wide varieties of wastes and byproducts. The Institute will bring together experts from complementary disciplines to investigate complex management problems associated with wastes and byproducts. While the Institute will have a main focus of research, various educational activities will be pursued to align with Cal Poly’s commitment to education. The Institute will facilitate and contribute to the development of a Master’s Program in Sustainable Environmental Waste Management with a progressive multidisciplinary curriculum. The new program will be administered by the Civil and Environmental Engineering department with contributions from other departments in the College of Engineering and other Colleges at the University. Other related graduate programs are envisioned as part of the scope of the Institute (such as joint MS/MBA or MS/Public Policy degrees). The Institute will strive to disseminate scientific discoveries resulting from the research studies by generating various categories of publications (reports, papers, guides, recommendations, test methods, etc); by providing presentations at high profile conferences and seminars; by education and training activities; and by interactions with industry and regulatory agencies for rapid technology transfer and policy implementation. By conducting high caliber research and effectively disseminating the research findings, the Institute will gain high profile recognition both nationally and internationally. We envision holding a major conference series at Cal Poly as part of the Institute activities. A potential candidate is the recently established joint Global Waste Management Symposium and Intercontinental Landfill Research Symposium. The inaugural symposium will be held in Colorado in 2008. We have established a high priority to permanently bring the bi-annual symposia to Cal Poly.

Mission Statement

The mission of the Global Waste Research Institute at California Polytechnic State University is to advance state-of-the-art and state-of-the-practice in development of sustainable technologies and policies for management of existing, new, and emerging wastes and byproducts through relevant and complementary research, development, and education. The Institute shall operate at the forefront of engineering, science, and business to develop products, processes, practices, and policies through conducting innovative research and educating stakeholders.

To accomplish its mission, Institute members will seek external funding for research, development, and education projects. In addition, the Director and Executive Committee will pursue donations to support Institute operations and activities, including specific projects carried out by Institute faculty. The priorities of the Institute will include investigation of properties and behavior of wastes and byproducts through theoretical analysis, experimental testing, and numerical modeling; investigation of multi-phase mobility of wastes and byproducts in the environment; development of containment, treatment, and reuse strategies; development and dissemination of theories, processes, and products for management of wastes and byproducts; marketing of innovative and economically viable technologies;
investigation of socio-economic implications of management strategies; and policy-making for sustainable management of wastes and byproducts.

Priority activities for the Institute during its initial years of operation will include: developing formal proposals to secure external funding beyond existing initial commitments; providing seed funding to faculty affiliated with the Institute to promote large-scale collaborations and associated proposals; facilitating and contributing to the development of the Master's Degree Program in Sustainable Environmental/Waste Management; establishing a flagship conference series associated with the Institute; and developing partnering relationships with California-based, national, and international organizations.

**Thematic Research Areas**

The Institute will be established to develop sustainable strategies and technologies for management of residual wastes and byproducts. Specific focus areas for research will include:

- Assessment of trends for generation, recovery, recycling, and disposal of existing, new, and emerging wastes and byproducts.
- Development of methodologies for recovery, recycling, and management of specialized waste streams such as e-wastes, scrap tires, agricultural wastes, military wastes, and high moisture content wastes.
- Identification, assessment, and technological development of processes for handling of wastes and byproducts associated with emerging industries such as biotechnology, nanotechnology, and alternative energy.
- Assessment of existing approaches and development of new applications and technologies for use of recyclable materials and byproducts.
- Development of management strategies and engineering/scientific solutions for wastes at various levels of governance.
- Investigation and development of energy recovery and conversion technologies for wastes.
- Investigation of long-term and field-scale performance and effectiveness of existing waste containment systems.
- Investigation of impacts of containment facilities on the global environment including effects on air quality as well as carbon balance in the environment.
- Development of new approaches for management of legacy wastes.
- Development of innovative materials and systems for waste treatment and containment.
- Numerical modeling and model verification of processes and systems related to optimization of waste treatment, conversion, and containment.
- Investigation of post-closure no maintenance ("walk-away") and perpetual containment systems.
- Development of versatile (e.g., inert, low impact, mobile, low cost) alternatives for diverse waste management and disposal needs (e.g., extreme climates, military activities, remote locations, environmentally sensitive areas, underdeveloped regions).
- Development of specific designs for waste management solutions for developing countries.
- Development of an inventory of instrumented field sites with industrial partners for assessment of various aspects of management of wastes and byproducts.
• Development of manufacturing and processing strategies to minimize waste production.
• Conducting life-cycle assessments for a wide variety of products with regard to environmental impact and resource utilization.
• Investigation of financial impacts associated with reduction, recycling, and reuse of wastes and byproducts on carbon credits trading.
• Investigation of the economic aspects of alternative containment system designs.
• Market development for recycled and reused wastes and byproducts.

**Thematic Education Areas**

The Institute will provide relevant education for stakeholders including students, educators, practitioners, regulators, policy makers, and the general public. Specific focus areas for education will include:

• Facilitating development of extensive course programs, degree alternatives, and research opportunities at Cal Poly in engineered, scientific, and economic management of wastes and byproducts for undergraduate and graduate students.
• Establishment of industry partnerships to develop specific solutions to waste and byproduct related problems using undergraduate and graduate students in a project based learning environment.
• Development of workshops, seminars, training courses at various levels of technical competency for practitioners, regulators, and policy makers.
• Development of course modules for K-12 and undergraduate and graduate education.
• Development of teaching aids for K-12 educators and university professors.
• Development of outreach materials for the general public that can be used by various constituents including regulators, waste management industry, consultants, as well as educational institutions.
• Provision of learning opportunities for developing multidisciplinary solutions to global waste management problems.
• Development of reports, manuscripts, theses, guidelines, standards, databases, and web-based materials for technology transfer.
ORGANIZATION AND GOVERNANCE

The Institute will be governed by a Director in collaboration with an Executive Committee that consists of select members of the Institute. The Director and the Executive Committee will be assisted by the member faculty of the Institute. The committee and members will include faculty representing multiple disciplines from the College of Engineering and other Colleges with synergistic relationships to the Mission of the Institute. The Director will be responsible for managing day-to-day operations of the Institute as well as coordinating and pursuing funding opportunities. It is expected that the Director will be an active researcher. A high-functioning Director is envisioned who can handle both research and operational tasks associated with the Institute. The Director will also be involved in supervising her own or collaborative research projects as well as disseminating research results through reports, papers, presentations, and other venues. The dissemination of results relates to both the Director's own research (in conventional journal and conference settings) as well as to broad results of all faculty participants in the Institute (for fundraising purposes associated with the Institute). In addition, the Director will manage general dissemination activities including seminars, training courses, workshops, and conference organizations. This Institute proposal was prepared in collaboration between Dr. James L. Hanson and Dr. Nazli Yesiller, who are married. Appropriate actions will be taken in the governance of the Institute to prevent any conflict of interest and to fully abide by Cal Poly regulations. The Dean of Engineering will act in supervisory capacity as needed.

The Interim Director of the Institute will be Dr. Nazli Yesiller. Dr. Yesiller is a civil engineer with a specialty in geoenvironmental engineering. She received her Ph.D. from the University of Wisconsin-Madison in 1994. She completed a Post-Doctoral assignment at the same university in 1995. She was initially an assistant professor and then a tenured associate professor at Wayne State University in Detroit, Michigan between 1995 and 2006. She has been an Independent Consultant in San Luis Obispo and lecturer at Cal Poly since 2006. Her academic interests are mainly in research with focus areas of waste containment materials and systems, reuse of byproducts, nondestructive testing, image analysis, and surface topography investigations. Her research projects have mainly been funded by the National Science Foundation (NSF). She received continuous funding from NSF between 1997 and 2006 starting with a CAREER Award. She also received external funding from American Association for Advancement of Science, Michigan Department of Transportation, and various private organizations. She has interests in experimental analysis and development of test methods and guides. She has been extensively involved with the American Society for Testing and Materials (ASTM) and serves as an Editorial Board Member of the ASTM Geotechnical Testing Journal and the chair of the Committee on Hydrologic Properties and Hydraulic Testing of soils. She has received ASTM Awards for standards development and technical publication. She also serves on various committees of American Society of Civil Engineers and Transportation Research Board and participated in numerous seminar, symposium, workshop, and conference organization activities. Dr. Yesiller is highly qualified to serve as the Interim Director of the Institute due to her background and expertise, research record, and professional service activities.

The Executive Committee will consist of the Institute Director and faculty members of the Institute with relevant and complementary research and education interests closely
aligned with the Mission of the Institute. The initial membership of the Executive Committee represents a group of faculty with direct research, teaching, and professional service interests linked with the Institute. Dr. Hanson and Dr. Vigil have expertise in solid waste and byproduct management including recycling, reuse, and containment. Dr. Vanasupa has been extensively involved with sustainable engineering and global educational initiatives. Dr. Golden will provide a direct link to the College of Agriculture, Food, and Environmental Sciences in relation to investigation of agricultural wastes and byproducts. Dr. Singh has expertise in packaging and provides a link to the Orfalea College of Business in relation to investigation of manufacturing processes for waste reduction and reuse applications. The Executive Committee will work closely with the Institute faculty to identify research and educational priorities and activities for the Institute as well as participate in securing funds and disseminating the results of Institute activities. The Executive Committee and Institute faculty will facilitate and contribute to the development of the Masters Degree Program in Sustainable Environmental/Waste Management. Member faculty of the Institute will teach various courses in the program and direct research and advise students in relevant research topics. The make-up of the Executive Committee will continue to evolve and members will rotate as leaders around campus emerge in research and education related to the activities of the Institute.

**Executive Committee**

- Dr. Nazli Yesiller: geoenvironmental engineering, containment materials and systems, nondestructive testing, image analysis
- Dr. Bruce L. Golden, Department Head – Dairy Science: genetic evaluation of livestock, animal identification, and livestock breeding
- Dr. James L. Hanson, Associate Professor – Civil and Environmental Engineering Department: geotechnical and geoenvironmental engineering, waste containment systems, heat transfer analysis
- Dr. Jay Singh, Associate Professor – Industrial Technology Program, Orfalea College of Business: packaging and life cycle assessment
- Dr. Linda Vanasupa, Professor - Materials Engineering Department: materials engineering, engineering education, sustainable engineering, global education
- Dr. Samuel A. Vigil, Professor – Civil and Environmental Engineering Department: environmental engineering, solid waste management

The Institute will have member faculty, who will participate in and contribute to determining the direction of its activities. The members will be responsible for pursuing external funding opportunities and will benefit from seed funding opportunities made available through the Institute. The members will also be responsible for supervising individual research projects and disseminating the results in reports, papers, presentations, and through other venues and will be responsible for participating in and organizing Institute seminars, training courses, workshops, and conferences. A preliminary list of members of the Institute is provided below. Additional members from Colleges of Science and Mathematics, Business, and Agriculture, Food, and Environmental Sciences will be identified in collaboration with the Deans of these Colleges. Support Letters provided by the Deans in Appendix B indicate the interest and support of multiple Colleges in the Institute. In addition, several members of the Institute have existing collaborations with member Colleges and with particular units such as the Environmental Biotechnology Institute; Project Based Learning
Institute; and Industrial Technology Program. These members will assist in further identification of faculty for collaborative and cooperative participation in the activities of the Institute. The existing collaborations between the various member faculty of the Institute and also between the members and faculty not identified by name in this section can be seen in the resumes provided in Appendix C and publications provided in Appendix D. It is expected that faculty members affiliated with various departments or programs at Cal Poly will collaborate with and participate in the activities of the Institute. The member faculty of the Institute will continue to evolve as projects and activities of the Institute develop over time.

- Dr. Isaac Chang, Industrial Technology Program, Orfalea College of Business: product lifecycle management, alternative energy applications, energy conversion
- Dr. Ray Fernando, Department of Chemistry and Biochemistry: polymers and coatings
- Dr. Gregg Fiegel, Chair, Department of Civil and Environmental Engineering: Engineers without Borders, sustainable infrastructure, professional training, student activities, and graduate education
- Dr. Daniel Jansen, Associate Professor – Civil and Environmental Engineering Department: structural engineering, civil engineering materials, reuse of byproducts
- Dr. Andrew Kean, Assistant Professor – Mechanical Engineering Department: combustion and pollution emissions, energy
- Dr. Trygve J. Lundquist, Assistant Professor – Civil and Environmental Engineering Department: environmental engineering, animal wastes, and waste-to-energy
- Dr. Yarrow Nelson, Professor – Civil and Environmental Engineering Department and Environmental Biotechnology Institute: environmental engineering, analytical investigations, waste-to-energy, and conversion technologies
- Dr. Ashraf Rahim, Assistant Professor – Civil and Environmental Engineering Department: pavement engineering, reuse of byproducts
- Dr. Ken Riener – Orfalea College of Business: global cost of alternative energy sources, effect of carbon credits
- Dr. Pete Schwartz – Physics: renewable energy, appropriate technology for the poor, financial analysis of energy transitioning
- Dr. Keith Vorst, Assistant Professor – Industrial Technology Program, Orfalea College of Business: packaging

The Institute will be supported by an External Advisory Board that will include distinguished representatives from academia as well as waste, recycling, manufacturing, engineering, and service industries. The Board will provide general direction and guidance for the activities of the Institute and provide a bridge between academia and industry. The Board will also assist with identifying potential research and education topics and support mechanisms. The External Advisory Board will have at least one annual meeting. The External Advisory Board will nominate a chair, who will also serve as liaison to the Executive Committee. A preliminary list, with general categories in some cases, for the External Advisory Board membership, is presented below. Additional members and specific members in certain categories will be identified in collaboration with the Deans of the Colleges participating in the Institute subsequent to formal establishment of the Institute. The membership in the External Advisory Board will be on a rotational basis with renewable appointments of 2 or 3 years.
External Advisory Board (Preliminary List)
- Mr. Jim Little: Waste Connections, Inc.
- Dr. Conrad Young: Century Tubes Inc.
- Dr. Craig H. Benson: University of Washington
- Dr. David E. Daniel: University of Texas-Dallas
- Dr. Majdi Othman: Geosyntec Consultants
- Mr. Paul Orfalea: Kinko's-FedEx
- Mr. Ken Edwards: Dunn-Edwards Paint
- Mr. Bob Gallo: Gallo Wines
- GSE Inc.
- Mr. Pat DeRuda: Waste Management
- Dr. Robert Ham: Emeritus University of Wisconsin-Madison
- Electronics Industry
- Transportation Industry
- Mining Industry
- Electric Power Industry

The Institute will also establish national and international collaborations with partner organizations including universities, corporate entities, and governmental agencies. Jointly managed research and education projects; use of industry partners' facilities for field-scale investigations; joint professional activities; and collaborative training courses, seminars, and workshops will constitute the majority of activities to be undertaken with the Partner Organizations. A preliminary list is provided for the Partner Organizations below. The list of the Organizations will be finalized subsequent to formal establishment of the Institute. Formation of research groups with regard to specific topics and associated partners will be pursued subsequent to the establishment of the Institute. An example includes a Landfill Research Group that will include relevant faculty members of the Institute and Partner Organizations. The Group will focus on specific projects that are relevant for landfills. Common research conducted by the Group will benefit all members and all of the resulting materials such as data, analyses methods, test methods, guidelines, specifications, and other publications will be accessible by all members.

Partner Organizations (Preliminary List)
- Waste Connections Inc.
- effENERGY LLC
- adaptiveARC, Inc.
- Waste Systems International, Inc
- Synergy Power Corporation
- University of Wisconsin-Madison
- Purdue University
- Kyoto University – Japan
- Sauk Trail Hills Development
- Los Corralitos Regional Landfill
- Anchorage Regional Landfill
- Vancouver Landfill – Canada
- Monterey Regional Waste Management District
- Lucas Heights Landfill – Australia
- Rubber Recovery, Inc.
- Nippon Koei Co. Ltd. – Japan

An organizational flowchart for the Institute is presented in Figure 1. The flowchart depicts relationships between Institute constituents within the framework of the University administration.
Figure 1. Organizational Flowchart for GWRI
PERSONNEL AND FACILITIES

Initial facilities and personnel requirements for the Global Waste Research Institute consist of a Director position and office space for the Director. An Administrative Assistant/Assistant Director Position and office space for the Assistant will be required in the second year of operations of the Institute. The Director and Assistant will manage the Institute in the short as well as the long term. Additional personnel will be hired over time for supporting the research mission of the Institute. The additional personnel will mainly consist of Research Associates. The Research Associates will be responsible for conducting research projects, which cannot be fully accomplished with undergraduate and Master’s level graduate students. The Research Associates will work closely with the faculty members of the Institute. In addition to conducting research, the Research Associates will also assist with teaching of courses for the newly established Master’s Degree Program or other courses as needed. It is expected that the first cycle of additional personnel would join the institute in the third or fourth year of operations.

Additional office space will be required for the Research Associates. It may be possible to house the Research Associates in existing office and laboratory settings based on their expertise and work areas. Initially, the research studies will be conducted in existing laboratory facilities on campus. We expect that field investigations will also be conducted by the Institute faculty at various locations. Office space, laboratory space, and equipment solely devoted to Institute activities will be required over time as the operations of the Institute expand. We estimate that combined laboratory and office space with an area on the order of 2000 ft² will be required by the fifth year of operations of the Institute. Discussions are underway with the College of Engineering for identifying suitable space for the Institute.
FUNDING AND BUDGET

The Global Waste Research Institute at Cal Poly will be formed as a collaborative effort between academia and industry. Initial funds in the amount of $1,000,000 sequenced funding ($200,000 at onset and $100,000/year thereafter) has already been committed by Waste Connections Inc. as indicated by the Support Letter provided in Appendix A. Institute faculty will pursue additional funding from private industry and California Environmental Protection Agency. Funding will be pursued for projects in areas that constitute research priorities for the Institute from federal agencies including the National Science Foundation, U.S. Environmental Protection Agency, Department of Energy, Department of Defense, Department of Commerce, and Department of Agriculture. Also, funding will be sought for procurement of major equipment through various equipment funding opportunities available from the federal agencies. In addition, funding will be pursued from state agencies such as California Department of Transportation. Funding will also be pursued in the form of designated funding from California state government. The Institute has several priority research and education areas that coincide with the priority areas of the state government such as alternative energy and high-tech industries, which will enable the possibility of obtaining designated funding. The Director will actively pursue funding and also closely collaborate with affiliated Institute faculty and the Executive Committee in pursuing the various funding opportunities described above. Examples of existing, recent, and current externally funded projects conducted by Cal Poly faculty in areas related to the mission and activities of the Institute are provided in Appendix E.

The Institute faculty will have dual functions in funding related activities. The Institute will provide funds to faculty (and their collaborators as appropriate) for conducting research and education studies. The source of these funds would be donations or grants (e.g., obtained through foundations). It is intended that such funds be distributed to member faculty on a competitive basis (with a small-scale RFP within the Institute). The modest funds envisioned would help faculty conduct small-scale investigations and assist with developing plans for major collaborations and major topics of research. At the same time, the faculty will be actively engaged in pursuit of external funding for projects related to the Mission of the Institute. The return on indirect costs to the Institute will be used for operational costs and assistance with research costs. This dual function and funding cycle will allow for continual operations of the Institute.

An itemized budget is provided in Table 1 for estimated revenues and expenses of the Institute for an initial period of five years. Start-up funds in the amount of $25,000/year are requested for the first two years of the operation of the Institute. In the first year, this amount will augment the funds to be provided by Waste Connections Inc. to support the Institute Director and student assistants, and provide seed funds to member faculty. In the second year, the requested amount will augment funding from Waste Connections Inc. to support the Institute Director, an Assistant and the organization of the conference series to be affiliated with the Institute. We expect that external funding in addition to the funds provided by Waste Connections Inc. will become available starting in Year 2 or 3 with the amount expected to increase over time. We envision funding at the level of $400,000 to $600,000 for the Institute on average on an annual basis (including donations for operations, sponsored research, and fees generated by short courses and conferences). Actual revenues will be higher than the
levels presented in Table 1 due to the 25% return on overhead in research expenditures exceeding $100,000/year. Funds will be used for hiring Research Associates starting with the third year of operations. Funds may also be used for creating office and laboratory space for the Institute. The compensation category overall includes the salary for the Director, the Assistant, Research Associates, and students who may be hired directly by the Institute for research and education projects. The expenses include funds for compensation, funds for research and education activities as well funds for various services, materials, and supplies. Whereas it is envisioned that conferences and short courses will be integrated into Institute activities, these are not included as revenue streams during the first five years as profit from initial training efforts are expected to be modest. The initial efforts in this regard will focus on establishing a global reputation for the Institute, and not on profit. As the reputation of the Institute is established, such revenue stream is expected to contribute to an operating budget. Some research investigations may lead to intellectual property and possible financial benefits to the Institute and university. The Intellectual Property Policy for Cal Poly is provided in Appendix F for the activities of the Institute.

Table 1 – Five Year Budget Estimate for Global Waste Research Institute

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste Connections Inc.</td>
<td>200,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Start-Up Funds</td>
<td>25,000</td>
<td>25,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Funds</td>
<td>50,000</td>
<td>150,000</td>
<td>250,000</td>
<td>300,000</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>225,000</td>
<td>175,000</td>
<td>250,000</td>
<td>350,000</td>
<td>400,000</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compensation</td>
<td>150,000</td>
<td>125,000</td>
<td>180,000</td>
<td>195,000</td>
<td>260,000</td>
</tr>
<tr>
<td>Services, Materials, Supplies</td>
<td>5,000</td>
<td>10,000</td>
<td>10,000</td>
<td>15,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Research Funds</td>
<td>50,000</td>
<td>25,000</td>
<td>35,000</td>
<td>80,000</td>
<td>80,000</td>
</tr>
<tr>
<td>Education Funds</td>
<td>20,000</td>
<td>15,000</td>
<td>25,000</td>
<td>60,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Total</td>
<td>225,000</td>
<td>175,000</td>
<td>250,000</td>
<td>350,000</td>
<td>400,000</td>
</tr>
</tbody>
</table>
WHEREAS, The Recreation, Parks, and Tourism Administration program is currently an academic unit located in the Natural Resources Management Department; and

WHEREAS, A status change from Recreation, Parks, and Tourism Administration program to Recreation, Parks, and Tourism Administration Department is being proposed; and

WHEREAS, The program has grown to approximately 300 undergraduate students and 7 full-time faculty with strong student demand externally and internally with change of major students; and

WHEREAS, The program is primarily operating autonomously from the NRM Department with separate faculty meetings and individual state and college-based fee budget allocations; and

WHEREAS, The program has been very successful in adapting to changing student interests and industry demand with more than 40% of the current students in the event management advisor approved elective area and approximately 24% in the tourism planning and management concentration. The area with the third highest demand in the major is sport management; and

WHEREAS, These growth areas are not well aligned with the mission of the NRM Department. The FNR/ENVM and RPTA programs have very distinct mission statements, goals, curricula and strategic visions for the future that do not logically support continuing as a single department organizational structure; and

WHEREAS, This change will allow the proposed department to adapt more easily to industry trends, and the potential for growth in student numbers and industry partners will increase exponentially; and

WHEREAS, The program is responsible for advancement efforts that have been limited due to a lack of industry visibility; and
WHEREAS, Internal and external sources that have highlighted the need for RPTA department status have included a capital campaign readiness assessment, the RPTA Advisory Council, a 2005 internal program review document, and 93 letters of support from alumni, industry leaders, parents and advisory council members; and

WHEREAS, The administrative changes necessary will be a change in the title of the program coordinator to department head and a reclassification of an administrative support assistant to administrative support coordinator; and

WHEREAS, The minimal funding necessary to carry out these changes has been identified by the program and the College of Agriculture, Food and Environmental Sciences Dean; and

WHEREAS, Said change in status has been supported by all faculty in the Natural Resources Management Department through a memorandum of understanding, and by the College of Agriculture, Food and Environmental Sciences department heads and chairs, the CAFES Dean, and is being concurrently reviewed by the Academic Deans’ Council; therefore be it

RESOLVED: That the Academic Senate of Cal Poly endorse the change from Recreation, Parks, and Tourism Administration program, as an academic unit to the academic department of Recreation, Parks, and Tourism Administration Department.

Proposed by: Recreation, Parks, and Tourism Administration Program
Date: February 9 2009
RESOLUTION ON MODIFICATION TO THE 
BYLAWS OF THE ACADEMIC SENATE: 
REVISION TO MAKE THE POSITION OF ACADEMIC SENATE CHAIR AN AT-LARGE POSITION

WHEREAS, The position of Academic Senate Chair requires both significant experience in the Senate and serious commitment to it as an institution; and

WHEREAS, The term of office for Academic Senate Chair is limited by the bylaws restriction placed on Senate membership as stated in Article II.B: “A senator can serve a maximum of two [two-year] consecutive, elected terms and shall not again be eligible for election until one year has elapsed”; and

WHEREAS, It is often not until the third or fourth year of a senator’s term that a senator has acquired enough experience to serve as Academic Senate Chair; and

WHEREAS, It would be beneficial if that individual were able to serve as Academic Senate Chair for more than one to two years; therefore be it

RESOLVED: That the position of Academic Senate Chair become an at-large position rather than a college caucus position, thereby allowing each college complete voting representation; and be it further

RESOLVED: That the at-large position of Academic Senate Chair be a nonvoting position except when the Chair’s vote is needed to break a tie; and be it further

RESOLVED: That the position of Academic Senate Chair have a term limit of three one-year consecutive terms; and be it further

RESOLVED: That Article III.1.(d) of the Constitution of the Faculty be revised to read:
“Senators acting in an at-large capacity are the current Academic Senate Chair, the immediate Past Academic Senate Chair, and the CSU academic senators. All at-large positions shall be voting positions except for the Academic Senate Chair which is a nonvoting position except when the Chair’s vote is needed to break a tie”; and be it further
RESOLVED: That Article II.B of the Bylaws of the Academic Senate be divided into “1. Terms of Office for Senators” [will contain the current bylaws wording under Terms of Office] and “2. Terms of Office for Academic Senate Chair” [will add a second paragraph as worded in the following Resolved clause]; and be it further

RESOLVED: That Article II.B.2 of the Bylaws of the Academic Senate read: “Once a senator is elected to serve as Academic Senate Chair, that senator becomes an at-large member of the Academic Senate and the position vacated becomes a college vacancy to be filled by the college caucus. The elected term of office for Academic Senate Chair shall be a maximum of three one-year consecutive terms”; and be it further

RESOLVED: That Article I.B.5 of the Bylaws of the Academic Senate be revised to read: “College Caucus: All of the senators from each college and Professional Consultative Services shall constitute the caucus for that college or Professional Consultative Services. Part-time academic employees and at-large members of the Academic Senate shall not be part of any college caucus”; and be it further

RESOLVED: That Article IV.C of the Bylaws of the Academic Senate be revised to read: “Terms of Office: Each officer shall be elected by the voting members of the Academic Senate for a one-year term. The only limitation to the number of terms a senator may hold office as Vice Chair or Secretary are the eligibility requirements in Article II.A of these bylaws and the terms of office restrictions in Article II.B.1 of these bylaws. The number of terms a senator may hold office as Academic Senate Chair is set forth in Article II.B.2 of these bylaws.

Proposed by: Academic Senate Executive Committee
Date: February 17 2009
Revised: February 17 2009