

**UNIVERSITY OF HAWAI‘I
 CAPITAL IMPROVEMENTS PROGRAM
 FISCAL BIENNIUM 2009-2011
 SUPPLEMENTAL YEAR 2010-2011**

(IN THOUSANDS OF DOLLARS)

Priority	Project Title/Description	Program ID	Fiscal Year 2010-2011	Justification
1	<p>Health, Safety and Code Requirements University of Hawai‘i–Systemwide</p> <p>Plans, design, construction, and equipment for modifications to existing facilities and/or construction of new facilities for health, safety, and code requirements.</p> <p>Plans Design Construction Equipment Financial Requirements</p>	UOH 900	<p>901 C 6,474 C 9,800 C 1,450 C 18,625</p>	<p>This project provides for correction of identified health, safety, and code deficiencies for University Programs, Systemwide. The current request includes improvements at the University of Hawai‘i at Mānoa and the University of Hawai‘i at Hilo.</p> <p><u>University of Hawai‘i at Mānoa</u></p> <ul style="list-style-type: none"> • Krauss Hall, Drainage Improvements • East-West Electrical Substation • Campus Flood Control Projects • Les Murakami Stadium, Field Lights Replacement • Coconut Island, Code and Safety Improvements <p><u>University of Hawai‘i at Hilo</u></p> <ul style="list-style-type: none"> • Elevator Improvements • Structure Assessment for Multi-Hazard Mitigation • Flood and Drainage Mitigation • Water Infrastructure Improvements

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2	<p>Capital Renewal and Deferred Maintenance University of Hawai‘i–Systemwide</p> <p>Design and construction for improvements to University of Hawai‘i facilities. Project to include capital renewal, reduction of maintenance backlog, major and minor renovations, modernization of facilities, reroofing, mechanical and electrical systems, resurfacing, repainting, and other repairs and project costs to upgrade facilities at all University campuses.</p> <p>Plans Design Construction Equipment</p> <hr/> <p>Financial Requirements</p>	UOH 900	<p align="center">– 23,549 C 211,933 C – 235,482</p>	<p>The University of Hawai‘i’s physical plant has accumulated a backlog of repairs and maintenance (R&M) due to the lack of general funds. This project includes reroofing, mechanical and electrical systems, renovations, resurfacing, repainting, and other improvements and project costs to upgrade facilities at all University campuses.</p> <p>Facilities provide the centerpiece around which all other educational activities exist at higher education institutions. The total replacement value of all University of Hawai‘i facilities is estimated at \$4 billion. Therefore, it is imperative to reinvest in the University’s physical plant to ensure that the physical infrastructure facilitates the mission of the institution.</p> <p>The role of R&M is to maintain the physical infrastructure and facilities of our campuses so that they are functional, architecturally sound, aesthetically pleasing, and in compliance with building and safety codes to support quality instruction, research, student, and community services programs.</p> <p>Of the \$235.482 million, \$13.500 million is included in this project for the renovation of Gartley Hall.</p>

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3	<p>Major CIP Planning University of Hawai‘i System</p> <p>Plans and design for long range development plans, including updates of long range development plans for various University campuses, project development reports, design guidelines, space utilization studies, and other planning documents.</p> <p>Plans Design Construction <u>Equipment</u> Financial Requirements</p>	UOH 900	<p>2,999 C 1 C — — 3,000</p>	<p>This project provides for major CIP planning documents for University of Hawai‘i that include long range development plans (LRDP), project development reports, infrastructure studies, and other University facility planning requirements.</p> <p><u>Long Range Development Plans</u> LRDPs are required for all University campuses as they provide the foundation for a comprehensive and cohesive campus design utilizing facilities to meet the educational goals and needs of the University. The University will update campus LRDPs to ensure the long range physical development plan conforms with academic strategic plans. LRDPs included in this request include the University of Hawai‘i at Mānoa and University of Hawai‘i at Hilo - Kalākaua Marine Education Center at Puakō.</p> <p><u>Infrastructure Studies</u> Infrastructure studies are required to assess the capacity and appropriate campus infrastructure as it relates to each campus LRDP. Infrastructure studies included in this request include the University of Hawai‘i at Mānoa.</p> <p><u>Project Development Reports</u> Advanced planning for new facilities and renovations of existing buildings have proven to be an integral part of the capital improvements program process. This request provides for the preparation of definitive program statements, cost estimates, and logistical timetables for project implementation.</p> <p><u>Other Facility Planning Studies</u> The University requires other facility planning studies to identify and correct existing campus issues and the development of strategies to address the University's maintenance backlog. The following is a list of other facility planning studies requested: Systemwide Design Guidelines and Systemwide Space Utilization Study.</p>

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4A	<p>Information Technology Center University of Hawai‘i System</p> <p>Construction and equipment for an information technology and emergency operations center building to service the University of Hawai‘i System and the Mānoa Campus. Project to include ground and site improvements, development of new facility, and all project related costs.</p> <p>Plans Design Construction Equipment</p> <hr/> <p>Financial Requirements</p>	UOH 900	<p align="center">— — 12,659 C 2,813 C</p> <hr/> <p align="center">15,472</p>	<p>This project will develop a new building on the Mānoa campus to service Systemwide information technology infrastructure and an emergency operations center for the University System and Mānoa campus. Although information technologies are increasingly the core of knowledge-based institutions such as universities, the University of Hawai‘i has shoehorned its core technology infrastructure into any available space on a piecemeal basis for more than thirty years. As a result, the campus computing center, data communications hub, phone system, and video hub are dispersed throughout the University of Hawai‘i at Mānoa campus. None of the current facilities have adequate backup power, air conditioning, or security, and the State Auditor cited the inadequacies of the facility in their audit of the University's financial information in 2005. The development of the Information Technology Center is particularly critical to address the vulnerability of the University's entire information and communications infrastructure, which was highlighted by the State Auditor in December 2005. Keller Hall, a building that was originally developed in 1959, is the home to all University System servers and data communications that service the University's ten campuses. The computers are located on the ground floor of Keller Hall and were at risk during the October 30, 2004 Mānoa flood. The infrastructure was again threatened as recently as March 31, 2006, during a period of heavy rains on O‘ahu.</p> <p>The new Information Technology Services Center will provide the following benefits:</p> <ol style="list-style-type: none"> 1 - Provide the first properly designed and supported "machine room" facilities for the University that will enable the provision of reliable 24x7 university-wide technology services, including through natural and man-made disasters. The replacement facility will house central computing, data networking, telephone, and video resources with reliable power, air conditioning, and connectivity to improve and facilitate disaster responsiveness. 2 - The University currently has no Emergency Operations Center (EOC) with environmental conditions and communications services essential in an emergency situation. Such an EOC has requirements very similar to those of a modern information technology data center, so the new facility will also serve as the EOC for the Mānoa campus and the University System. 3 - Reduce energy consumption by placing currently fragmented high-demand requirements for electricity and AC into properly-designed facilities. 4 - Provide high-quality space for faculty to develop instructional and media content in support of their teaching and research; make available new spaces for students to work with information technologies; provide access to teleconferencing and collaboration environments for members of the university community to work with colleagues and peers around the country and the world; and make available high-quality data center space for units that do not have adequate space to house program-specific servers and data storage. 5 - Free up general purpose space for required R&M and for education and research on campus.

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4B	<p>Holmes Hall, Sustainability Laboratory University of Hawai‘i at Mānoa</p> <p>Plans, design, construction, and equipment for the development of engineering laboratories in Holmes Hall. Project to be financed by State and Federal sources. Project to include ground and site improvements, development of an addition, equipment and appurtenances, and all related project costs. This project is deemed necessary to qualify for federal aid financing and/or reimbursement.</p> <p>Plans Design Construction Construction Equipment Financial Requirements</p>	UOH 100	<p>1 C 1 C 7,997 C 11,600 N 1 C 19,600</p>	<p>The scope of this project is provide State matching funds in the amount of \$8.000 million for a proposed \$11.600 million Federal Stimulus Act Grant for Science infrastructure development. The total scope of the project is for the design, construction, and equipment for a \$19.600 million laboratory addition to the College of Engineering Holmes Hall.</p> <p>This program will provide critical scientific infrastructure for the expansion of the College of Engineering Alternative Energy and Sustainability research initiatives and will place the University of Hawai‘i at the forefront of this research leading to significant benefits to the State of Hawai‘i.</p> <p>The State of Hawai‘i and the University of Hawai‘i at Mānoa's College of Engineering are seeking to become leaders in the fields of Alternative Energy and Sustainability. These fields are of key strategic importance to the State's economic future and the mission and role of the University as a research leader for the benefit of the State and the Country as a whole. The University's College of Engineering is well positioned to utilize this grant to generate both immediate and long-range research products for the benefit of the State.</p>

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4C	<p>Smart-Grid Energy Management Infrastructure University of Hawai‘i at Mānoa</p> <p>Plans, design, construction, and equipment for the development of an advanced technology electrical distribution system. Project to be financed by State and Federal sources. Project to include ground and site improvements, equipment and appurtenances, and all related project costs. This project is deemed necessary to qualify for federal aid financing and/or reimbursement.</p> <p>Plans Design Construction Construction Equipment Financial Requirements</p>	UOH 100	<p>1 C 3,749 C 21,249 C 25,000 N 1 C 50,000</p>	<p>The scope of this project is to provide matching funds (50%) to a proposed \$50 million project for the development of "Smart Grid" energy systems. The total scope of this project is for the planning, design, and construction of a large-scale campus-wide project to modernize the existing district utility system and building distribution systems with a new advanced technology distribution system that will increase electrical distribution efficiencies, provide for the deployment of alternative energy capacity, and significantly reduce overall energy consumption.</p> <p>Elements of the existing campus electrical system are over 20 years old and pose significant losses in operating efficiencies and constraints on the deployment of future technologies. New alternative energy technologies (i.e. solar, wind, fuel cell, and storage) require advanced control technologies not available with the current system.</p> <p>This project will improve campus-wide electrical distribution capacity and capability allowing for more intelligent use of available electrical resources.</p> <p>Significant reduction in electrical operating costs, CO2 emissions, improvement in reliability and energy independence, resulting in improvement to both teaching faculty and students.</p>

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4D	<p>Campus Development University of Hawai‘i–West O‘ahu</p> <p>Construction for the development of the University of Hawai‘i–West O‘ahu. Project to include ground and site improvements, construction of infrastructure and new facilities, and all project related costs.</p> <p>Plans Design Construction Construction <u>Equipment</u></p>	UOH 700	<p>– – 1 C 1 B –</p>	<p>This project provides for the development of the first increment of the University of Hawaii–West Oahu campus in Kapolei and the construction of on- and off-site infrastructure improvements to serve the campus and other University owned properties.</p> <p>This project will involve the construction of a new four-year undergraduate campus located in Kapolei. This campus will meet the growing needs of communities in Central and Leeward Oahu, where already there are more than 71,000 K-12 students. The University of Hawaii–West Oahu is planned to meet the needs of commuters, older students, working students, and those interested in professional education.</p> <p>This project includes the design and construction of on and off-site infrastructure to service portions of the University's 500 acre parcel in Kapolei, and will also include the development of facilities for the first increment of the campus, which includes the development of four new facilities and surface parking.</p>
	<p>Financial Requirements</p>		2	<p>The general obligation bonds included in this request will be combined with proceeds from the sale of a 55-acre fee simple parcel which is owned by the University of Hawai‘i. The parcel has been commercially zoned for business and mixed-use development.</p>

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5	<p>College of Hawaiian Language Building, Phase I University of Hawai‘i at Hilo</p> <p>Construction and equipment for the College of Hawaiian Language Building. Project to include ground and site improvements, development of new facility, equipment and appurtenances, and all related project costs.</p> <p>Plans Design Construction <u>Equipment</u> Financial Requirements</p>	UOH 210	<p align="center">-</p> <p align="center">-</p> <p align="center">29,000 C</p> <p align="center">2,000 C</p> <hr/> <p align="center">31,000</p>	<p>The College of Hawaiian Language at the University of Hawai‘i at Hilo is a primary source of Hawaiian language support in the State of Hawai‘i and a national leader in indigenous language and cultural revitalization. The success of the College of Hawaiian Language has been recognized by academics and the media both nationally and internationally.</p> <p>Currently, the College of Hawaiian Language is dispersed in several buildings in cramped spaces. A new facility is required to consolidate the College for current and future program expansion, which is necessary to further develop the University of Hawai‘i at Hilo as a leader in cultural and language revitalization and a model for other indigenous people.</p> <p>This project will provide a state of the art facility that will increase the visibility of the College of Hawaiian Language and supply the physical resources to accommodate continued curriculum development, high-technology learning, distance education needs, and serve as the area to host the many indigenous peoples from across the globe who frequently visit the College of Hawaiian Language's model programs.</p> <p>The design of the project will be completed by January 2010.</p>