Colorado State University
College of Agricultural Sciences
Department of Horticulture and Landscape Architecture
Synopsis of Proposed Professional Master's of Landscape Architecture Degree

1. *Overview of Proposed Program*

Name: Landscape Architecture
Degree Type: Master's Landscape Architecture (MLA) Degree
Department/School: Horticulture and Landscape Architecture
College of Agricultural Sciences
Colorado State University
Five-Year Expected Enrollment: 30 steady-state after 4th year

Anticipated Start Date: Fall, 2010

Proposed Degree, Rationale and Summary

The Department of Horticulture and Landscape Architecture proposes to offer the following graduate degree program in Landscape Architecture:

Master of Landscape Architecture (Plan C-Professional Master's Degree)

The Master of Landscape Architecture, MLA, professional degree program seeks applicants whose abilities and academic and professional achievement suggest the potential for professional leadership. The program prepares individuals for the full range of activities involved in the practice of landscape architecture. The curriculum is comprehensive and rigorous, providing an intellectual base of knowledge in history, theory, applied natural sciences, technology, and professional practice. Particular emphasis is given to developing mastery of design through a series of intensive design studios that investigate the broad range of landscape scales, from garden to region, that characterize the practice of landscape architecture.

The course of study extends the base of knowledge of the professional field through graduate study with a particular emphasis on the design of the physical environment. It provides those who have already demonstrated professional competence with the opportunity to advance their theoretical and analytical skills. A broad choice of studio options permits students to integrate material presented in lectures and seminars in landscape design and in related areas of study at CSU. Students can select from a range of courses in design, history, theory, technology, applied natural sciences, plants, and professional practice. Students pursue special interests through coursework that builds knowledge in a selected focus area.

Rationale

For a variety of pressing environmental, cultural, economic and artistic reasons, landscape architecture is enjoying a period of renewed visibility and relevance around the world. Gardens, parks and public outdoor spaces, including extensive recreational areas are under the purview of landscape architecture. Today the scope of practice is expanding to include large-scale public works, infrastructures, post-industrial brownfield sites, landfills, urbanizing sectors of cities and even marginal leftover spaces. In the

context of Colorado Agriculture, there is need and opportunity for landscape architects to help assure that the continuing conversion of large, highly valued landscapes from farming/ranching uses to recreation/development is well-planned for the landowner and for the general public.

As a consequence, landscape architects need to acquire an ever-growing body of skills – conceptual and imaginative as well as technical and managerial. As these tools and techniques evolve into more sophisticated forms of practice, the role of education must involve not only the transmission of skill-based knowledge but also the development of critical insight and invention, i.e. the capabilities for originality and leadership that can emerge from well-mentored graduate education.

2. *Fit with CSU Role and Mission and University's Most Current Strategic Plan*

By State statute, Colorado State University is a comprehensive graduate research university with selective admission standards. Charged with offering a comprehensive array of baccalaureate, master's and doctoral programs, it holds exclusive statewide authority for programs in agriculture, forestry, natural resources and veterinary medicine. Colorado State University has a unique mission in the state of Colorado. The land-grant concept of a balanced program of teaching, research, extension, and public service provides the foundation for the University's teaching and research programs, Agricultural Experiment Station, Cooperative Extension, and Colorado State Forest Service. Several of the aims outlined for meeting this mission, i.e. "Provide high quality graduate education programs", "Provide an environment conducive to excellent faculty and student research, scholarship, and artistry", etc., will be supported by implementation of the proposed Master of Landscape Architecture program.

The proposed MLA is clearly relevant to the current University Strategic Plan and will contribute to progress toward specific goals in that plan. Most clearly, this includes Goal 10 ("Refine existing and selectively create new graduate degree programs consistent with the institution's strengths and demands of society") ; Goal 11 ("Increase the number of graduate students on campus,…") ; Goal 23 ("Encourage scholarship that addresses pressing social, political, economic and cultural issues, both domestic and international"). In addition, development of the MLA is a key objective of the College/Department Strategic Plan, specifically the Strategic Initiative entitled *Design and Management of Colorado Landscapes.*

This mission and strategic plan relevance are best illustrated by the objectives of the proposed program, which include to:

- Provide a distinguished and scholarly educational setting responsive to the needs of the environment, society, and the profession of landscape architecture.
- Maintain balance with regard to depth and breadth of academic awareness and through professional engagement with constituents in private and public practice.
- Provide students with opportunities for assimilating professional information through study and resolution of real-world problems in the Rocky Mountain and High Plains regions.
- Be a valued and integral component of the College of Agricultural Sciences and Colorado State University regarding landscape design, landscape planning,

sustainable environments, landscape ecology, and geographic information systems.

- Provide opportunity for students to engage horticultural issues within the context of landscape architecture.
- Research, develop, and test new theories, methods, and tools needed to enhance understanding of design and planning issues in the protection and promotion of cultural and natural environments.
- Embrace regional, national, and international relationships of the University, such as that with Lincoln University in New Zealand.
- Provide flexibility of choice for students with regard to specialization or diversification within the profession and maintain an excellent graduate curriculum for students who may elect to pursue further graduate study.

3. *Evidence of Need for the Program*

The need for the program is inherent and implicit in the wide array of problems that require well-informed landscape design and planning solutions. This is particularly true in Colorado and surrounding states, which continue to face major issues related to growth, development, land use change, and quality of life. Employment needs are well-articulated in LAND online, from www.asla.org. A May, 2007, "Audio News Release Promotes Careers in Landscape Architecture As part of National Landscape Architecture Month," ASLA President Pat Caughey, FASLA, reports that landscape architecture is the fastest growing of all the design professions and cites the extraordinary demand for landscape architecture services as driving increased salaries and hiring by firms. The release can be heard at http://www.asla.org/land/2007/0508/caugheyradio.html

According to the federal Bureau of Labor Statistics, the demand for professional landscape architecture services is projected to expand 18 to 26 percent by the year 2014. To meet this demand, the number of graduates from landscape architecture programs must grow by an average of six percent each year.

4. *Evidence of Student Demand*

Student demand, projected numbers, and likely characteristics of students are based on students' inquiries and requests for information about the opportunity for graduate study in landscape architecture at Colorado State University. Although there have not been formal surveys, our experience over the years shows an increasing demand for the MLA. The information from clerical staff in the Department of Horticulture and Landscape Architecture is especially telling. On a continuous basis, the office receives 2 – 3 inquiries per week from individuals seeking a graduate experience that would be provided by the proposed program.

Based on this, we expect that the demand for the MLA will exceed capacity after a few years, and that the number of students will be capped at 25 – 30. Many of these will be individuals returning for advanced study from a variety of backgrounds, seeking opportunity to obtain the design and planning insights and skills needed to address problems as noted above. Finally, another indication of student demand is the fact that the program at the University of Colorado-Denver (see below) enrolls 50 students, and does not admit all who apply.

5. *Duplication/ Similar Programs in the State*

The only other program in Colorado is the Master of Landscape Architecture at the University of Colorado, Denver. The UCD program is focused on the needs of students completing undergraduate study in the College of Design at UC Boulder, and to a large extent on urban design. The MLA proposed for CSU will be unique in its opportunity to incorporate a wide selection of graduate courses in areas of the institution's particular strength, e.g. natural resources, water management, and agricultural sciences, topics that are foundational to the mission of a Land-Grant university.

6. Student Body

As noted in Section 3, landscape architecture as a profession is in a period of high visibility and relevance around the world. Student interest is strong because: the profession is in a period of renewal; it is the fastest growing of the design professions in terms of demand for services; and both salaries and hiring are increasing. All of this is affirmed by a steady stream of inquiries to our office, asking if we offer graduate study in landscape architecture.

Based on this information, and on solid expression of interest in graduate study from current CSU undergraduates, we are confident that eight well-qualified students will be enrolled for the MLA in its first year, and that this will grow to 25-30 students after five years. This number of students is considered to be the maximum that can be sustained with the existing and requested additional resources in landscape architecture. Demand may exceed this capacity, however, in which case the Department and College will determine if reallocation from other programs is appropriate.

7. Admission Requirements

There are no additional requirements for admission to the proposed program beyond the requirements for admission to and remaining in good standing with the Graduate School at CSU. The program will seek applicants whose abilities and academic as well as professional achievements suggest the potential for professional leadership.

Accreditation is important in landscape architecture, but is not an issue for the proposed degree program. The reason for this is that the excellent CSU undergraduate program (B.S.L.A.) is fully accredited, and the policy of the national accrediting body (Landscape Architectural Accreditation Board, American Association of Landscape Architects) has been to accredit no more than one degree at any one institution. Although this policy may be changing, which would present future opportunity for accreditation, the MLA at CSU will not require LAAB review.

Individuals who have completed a four-year undergraduate degree are eligible for admission to the program. Preference for admission is given to individuals who have completed a balanced undergraduate education that includes study in the arts, sciences, and humanities. Preparation in the visual arts is strongly advised. Individuals who have completed an accredited program leading to an undergraduate degree in landscape architecture or its equivalent can complete the MLA in two years study. Those with an undergraduate major outside the professional design fields may be admitted to the

program, but will need to complete background/foundation courses as determined by the Landscape Architecture Graduate Committee.

8. *Course of Study*

Summary detail - *Master of Landscape Architecture, Plan C Professional Degree*

The Program of Study for each student is developed with and approved by the Landscape Architecture Graduate Committee, following established Graduate School forms and procedures.

Requirements for the Degree
A candidate will be recommended for the Master of Landscape Architecture, MLA, upon satisfactory completion of at least 40 credits. As noted above, students will be encouraged to specialize in selected areas of interest, and each student's program of study will be approved by the LA Graduate Committee.

To assure an appropriate base of academic preparation, all students will be expected to enroll in a core landscape studio each semester and to complete courses in the following core areas of study:

- Drawing.
- Representation.
- Environmental analysis, with GIS.
- Theory and methods.
- Landscape history.
- Ecology/natural resources.

Landscape Architecture Graduate Program Course List

Design Theory / Representation
LAND 510 - Virtual Design Methods

Environmental analysis/GIS
LAND 520 - Geographic Information Systems

Natural resources/ecology
LAND 560 – Structure of Landscape Patterns

LAND 698 – Research in Landscape Architecture

Core landscape studio

LAND 601 - Major Landscape Change, 4 credits
LAND 602 – Site/Garden Design Topics, 4 credits
LAND 603 - Urban Design Topics, 4 credits
LAND 604 – Park and Rec Planning and Design, 4 credits

Master's in Landscape Architecture (Plan C)

Year 1	
Fall	*Spring*
LAND601 (Studio Option) 4 **or** **LAND603 (Studio Option) 4** electives 6 total 10	LAND510 OR LAND520 3 **LAND602 (Studio Option) 4** electives 3 total 10
Year 2	
Fall	*Spring*
LAND601 (Studio Option) 4 **or** **LAND603 (Studio Option) 4** electives 6 total 10	LAND510 OR LAND520 3 electives 3 **LAND604 (Studio Option)** 4 total 10
	TOTAL CREDITS 40

Focus Area
Students supplement required courses with elective courses in the focus area. An outside area of interest or focus will be pursued by selecting coursework in one of the multitude of disciplines that inform the work of landscape architects.
The focus area and elective courses should be selected in consultation with the graduate advisor. A **minimum of nine** of the elective credits must be in regular graduate courses in the focus area.

Electives are intended to define a focus area, enable students to explore other areas of interest, and provide rigor and depth to the program of study. For the primary focus areas listed below, at least nine elective credits are to be selected from the listed courses. Other focus areas may be developed by the graduate advisory committee, and must be defined by an identified set of graduate courses outside LAND from which electives are chosen. To the extent possible, depth of study is to be fostered by requiring that at least one of the graduate courses in the program of study serve as prerequisite for another.

Focus areas, with defining electives, include:
Cultural and Historic Landscapes (ANTH500, Development of Anthropological Theory; ANTH510, Contemporary Issues and Ethics in Anthropology; ANTH515, Culture and Environment; ANTH530, Humans in Ecosystems; HIST503, Historical Method: Preservation; AREC572, Social Benefit Cost Analysis).

Landscape Ecology (ECOL505, Foundations of Ecology; BZ561, Landscape Ecology; ECOL571, Advanced Topics in Ecology; RS578, Ecology of Disturbed Lands; ECOL592, Interdisciplinary Seminar in Ecology; ECOL610, Ecosystem Ecology; ECOL620, Applications in Landscape Ecology; NR522, Wilderness Ecosystem Planning; FW565, Managing Human-Wildlife Conflicts).

Landscape Restoration and Reclamation (ECOL505, Foundations of Ecology; BZ561, Landscape Ecology; RS578, Ecology of Disturbed Lands; BZ572, Phytoremediation; CIVE, Drainage and Wetlands Engineering; ECOL592, Interdisciplinary Seminar in Ecology; NR515, Natural Resources Policy and Biodiversity; NR561, Habitat Evaluation Procedures).

Regional and Community Planning (ECON/AREC540, Economics of Natural Resources; ECON/AREC541, Environmental Economics; AREC547, Public Lands Planning and Management; NR505, Concepts in GIS; FW565, Managing Human-Wildlife Conflicts; NRRT550, Ecotourism; NR580A3, Ecosystem Services; NR506, GIS Methods for Resource Management).

Remote Sensing/GIS (NR503, Remote Sensing of Natural Resources; NR504, Computer Analysis of Remote Sensing Data; NR505, Concepts in GIS; NR506, GIS Methods for Resource Management; NR512, Spatial Statistical Modeling-Natural Resources; NR621, Design of Geographic Information Systems).

Semi-Arid/Western Landscapes (CIVE520, Physical Hydrology; CIVE522, Engineering Hydrology; CIVE/WR524, Modeling Watershed Hydrology; CIVE544, Water Resources Planning and Management; AREC542, Economics of Water Resource Planning; CIVE548, Irrigation Management for Water Quality; WR516, Cumulative Effects and Watershed Analysis).

9. Assessment of Student Learning/Outcomes Evaluation

The mission of the program is to explore the cultural and natural aspects of landscape architecture, especially as that brings new thought and concepts of scholarly creativity to issues that impact the designed landscape and managed landscape. The overriding goal of Landscape Architecture at Colorado State is to improve quality of life through design of landscapes for multiple uses, conservation of countrysides, protection of natural areas, and the rebuilding of cities.

- **What specific learning outcomes will be achieved by students who complete this proposed program of study?**
  Students will:
  - possess basic problem solving skills and knowledge for comprehensive landscape design.
  - be technically competent in landscape architecture methods and communication.
  - possess the fundamental knowledge and skill needed to qualify for licensure and practice landscape architecture.
  - be sensitive to the values and expectations of the profession and their evolving role in the local, regional, and global community.
  - be able to conduct research to utilize published information and other precedents to develop original planning and design solutions to address complex problems impacting the landscape.

- **What methods will be used to assess student learning? How will student learning assessment be imbedded in the curriculum?**

In studio-based instruction, the primary means to evaluate student learning is through the evaluation of design and planning projects of diverse complexity, depth and breadth. Most problems assigned are formally evaluated two to three times by intermediate, graded pin-ups and final reviews by faculty, with participation by student peers. These projects are designed to enable students to display their ability to integrate and apply subject matter from the curriculum.

Each student will prepare a professional portfolio (paper, CDrom, website) that will reflect their design and problem solving skills as well as their career aspirations. The advisor and graduate examination committee will review students' portfolios as part of assessment, using basic indices of achievement.

- **What specific methods or approaches will be used used to assess graduate (completer) outcomes?**

  The following tools will be used to assess student outcomes :
  - a common rubric with descriptions of expected performance for each, designed in consultation with Dr. Kim Bender, Director of Assessment.
  - an advisor mentoring evaluation form based in self-reflection methods to develop outcomes for professional behavior.
  - graduate exit surveys.
  - alumni surveys.

- **Is a licensure examination associated with this field of study?**

  Those who are admitted with advanced standing to the proposed MLA will be already licensed, or be qualified to take the licensure examination (because they will have completed an accredited undergraduate program). Those completing the MLA without a prior degree from an accredited program will not be qualified for licensure in most states. For that reason, once the MLA is established, it is likely that we would seek its accreditation from the LAAB.

- **How will the institution determine the extent to which the academic program meets the objectives previously outlined?**

  It is clear that the enrollment projections represent an important overall objective that integrates most others, representing program success. In any case, the institution will be able to determine that objectives have been met by utilizing:
  - External reviews conducted by the ASLA Landscape Architecture Accreditation Board and/or patterned closely after that review process.
  - PRISM learning outcomes data.
  - OBIA data on enrollment in the Resident, Non-Resident, and International categories.
  - PRISM data describing the job placement and professional satisfaction of program alumni.

- **How will the collected information be used to improve teaching, advising, and co-curriculum activities to enhance student learning?**

Information about effectiveness in meeting the stated goals/outcomes will be used to improve the program in two major ways. We will use 1) the process of LAAB accreditation review, i.e. rely on the specific recommendations of external expert panels who will review a program self-evaluation report, as well as the creative work of students. Formal and/or informal panel reviews will occur at least every five years, and 2) surveys of program alumni.

10. "Snapshot" of Faculty Resources

In addition to the faculty shown in the table below, there are a number of associated faculty who may serve as advisors and/or members of graduate advisory committees for MLA candidates. These include:

- Horticulture faculty in the Landscape Design & Contracting program, who are also landscape architects. These include Zach Johnson (Assistant Professor, MLA from University of Colorado, Denver) and Elizabeth Mogen (Associate Professor, MLA from University of Illinois).
- Numerous faculty in allied disciplines and departments. These include those in various colleges (especially Agricultural Sciences and Natural Resources) whose expertise will support MLA candidates' pursuit of their interests in various focus areas. These represent the inherently wide range of scholarly interests that can facilitate the solution of problems that impact the aesthetic quality of Colorado landscapes. Examples include faculty with expertise in such areas as land use planning, GIS, invasive species, recreation resources, environmental history, and many others.

New faculty to be added.

One new faculty FTE is needed to establish the proposed program, specifically to help develop and teach the new courses, and to advise MLA candidates. Expertise most needed to complement the strengths of existing faculty will guide decisions to fill this new position.

Core Faculty in the Proposed Program

Last, First	Tenure-track/Tenured/Special	Highest Degree Held	Area of Specialization
Dianni, Christine	Tenure-track	MLA	Theory & Design
Goetz, Bradley	Tenured	MLA	Urban Design/Parks
Hunt, Jon	Special	MLA	Water/Landsc Anal
Martin, Patrick	Tenure-track	PhD	Landscape Ecology
McGrane, Joseph	Tenured	BSLA	Site Design/Constr
Paulson, Merlyn	Tenured	MLA	Design/Planning/GIS

Note : the terminal degree in Landscape Architecture is the MLA (Master of Landscape Architecture)

11. Impact of Program Request on Curriculum and Students

The Department of Horticulture and Landscape Architecture has 375 undergraduate students enrolled in three majors (Horticulture, Landscape Horticulture, and Landscape

Architecture), and 25 graduate students in Horticulture. Enrollment in the undergraduate Landscape Architecture major is capped, and admission to the major is based on several selection criteria. However, relatively few students are denied admittance to the major.

We believe there will be strong synergy between the current undergraduate program in Landscape Architecture and the proposed MLA. This synergy will include the availability of graduate teaching assistants to help with undergraduate course delivery. In addition, the presence of a graduate program will expand and enhance the context in which undergraduates learn about landscape architecture as a profession. As a consequence, we expect a significant percentage of MLA candidates, especially in the initial years of the new program's implementation, to be graduates of our undergraduate program.

The Department currently supports three to six graduate assistants on Resident Instruction funds and eight to ten on other external funds, although these are all in the Horticulture program. No graduate assistants currently support the undergraduate Landscape Architecture program (and there is currently no LA graduate program). With approval of the proposed MLA program, we anticipate funding for the two requested graduate assistantships. These may be allocated as four 0.25 TAs. The TAs in Landscape Architecture will be assigned to assist with the teaching of undergraduate courses, which will facilitate faculty involvement in the MLA. We do not anticipate significant impact upon undergraduate access to faculty. The studio nature of instruction in this discipline assures a high degree of interaction between faculty and students.

12. Library Reference Sources

The Department's Liaison Librarian (Catherine Cranston) has worked with the Libraries to assess the current library resources in landscape architecture, and determine what may need to be added. The institutions used for comparison of available library resources are the University of Illinois, University of Minnesota, and Utah State University. In summary, the current Colorado State library resources are estimated to be slightly deficient of those at these institutions (we need to be at 75%, and are currently at 68.5% of the compared institutions). Acquiring the necessary library resources is estimated to cost approximately $38,775, as included in the Summary of Budget Needs (Appendix E).

13. Facilities, Equipment, and Technology

The only needs of this type are in facilities. There is currently no additional office space to accommodate new faculty in landscape architecture. Therefore, we have obtained a cost opinion from Facilities Management to reconfigure existing space in NESB, making another faculty office.

14. Summary of Budget Needs

The budget requirements for this degree program are being built into the planning and budgeting process for the FY11 budget. The needs include an additional faculty line, 4 part-time graduate teaching assistant stipends, and the associated tuition for these students, a three-year phase in investment in library resources, and one-time funding to improve and update facilities. Roughly, a total base investment of $140,000 and a total

one-time investment of $46,000 will be required. Expected tuition and research revenues generated by this program after 3 years are estimated at $500,000 per year.

Colorado State University Pueblo

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10 June 2009

Dr. Julie Carnahan
Chief Academic Officer
Colorado Department of Higher Education
1560 Broadway, Suite 1600
Denver, CO 80202

Dear Dr. Carnahan:

Enclosed please find the materials for two proposed graduate degree programs at Colorado State University, Fort Collins: a Master's of Landscape Architecture and a Master's of Natural Science Education. These proposed degrees have gone through the normal campus approval processes and were approved by the Board of Governors of the Colorado State University System at its meeting on May 6, 2009.

Thank you for your review of this request. Please do not hesitate to let me know if you have any questions or concerns.

I will put hardcopies of this document in the mail to you tomorrow morning.

Sincerely,

Russell J. Meyer
Chief Academic Officer
Colorado State University System