

McLennan Community College

Highlander Ranch

Board Sanctioned

Ranch Advisory Committee

First Report

of

Goals and Recommendations

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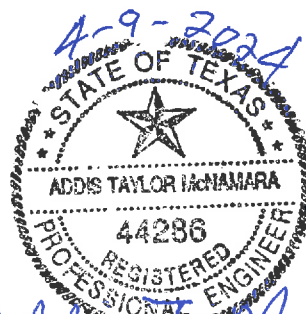
Phase One (2023-2024) – Four Year Strategic Plan

April 9, 2024

Prepared By:

Committee Chairman

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Addis T. McNamara

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Introduction:

The goals and recommendations presented in this report represent the specific ideas, concepts, and tasks, which were developed by the members of the Ranch Advisory Committee (RAC). I have had the privilege of organizing these goals and recommendations as a result of our joint efforts in these matters and presenting them to the McLennan Community College Board of Trustees (Board). On behalf of the RAC members, RAC sub-committee chairs and myself, I want to take this time to express our gratitude to the Board for providing us with the opportunity to serve in such a meaningful way for the benefit of a great educational institution, McLennan Community College.

1.0 Executive Summary

The McLennan Community College Board of Trustees sanctioned the formation of a Ranch Advisory Committee (RAC) in July 2023. The initial members of the Committee were seated, and the first meeting was held in September of 2023. Addis T. McNamara, B.S., M.S., P.E. of Brazos Environmental & Engineering Services, Inc., Waco, Texas was selected as chairman of the committee. During the second meeting in October of 2023, the following sub-committees were formed, and sub-committee chairman subsequently volunteered. These committees and their current chairs are as follows:

Education	Dr. Walthall and Larry Benton
Equine	Lisa Lacy
Fundraising	Chris Qualls
Marketing	Teri Campbell
Facilities	Addis T. McNamara, P.E.
High School Interaction	James Skeeler
Vet-Tech	Laurel Shrawder
Agriculture	Ron Chmielewski
Highlander Ranch Academic Incorporation	Bruce Byars

Subsequent meetings in November and December of 2023, January, February and March of 2024 provided a forum in which committee goals and strategies were discussed as well as the concepts and needs that were being developed by the sub committees. During this time, the sub committees seated members who may or may not have been on the Ranch Advisory Committee. These members were either solicited by the sub-committee chairs or volunteered for membership. Sub-committee meetings separate and apart from the monthly (RAC) meetings have been convened for the purpose of establishing goals and strategies for facilitating the goals that were identified in Phase One (2023-2024) of the Four-Year Strategic Plan for the McLennan Community College Ranch, dated June 28, 2023. In summary, these goals were:

- A. Form a ranch advisory committee.
- B. Increase the visibility of the ranch opportunities to our community.
- C. Expand the Vet Tech program.
- D. Increase ranch usage by other academic/work force programs to include Biology/Environmental Science.
- E. Build staffing capacity to expand on current and new community programs including boarding services.

In summary, the overall mission for this RAC in regards to the four-year Strategic Plan was to establish goals and recommendations that would enhance the educational opportunities for the community that McLennan Community College is serving and to create an operational plan that will sustain these opportunities going forward.

The “First Report” provides our initial goals and recommendations. We consider this to be a living document that can be modified as we move into our next phase of work, which shall be the development of specific strategies for accomplishing the aforementioned goals and recommendations. These strategies shall be presented in our “Second Report.”

The RAC has identified three major divisions of operation on which we are initially focused and through which the subcommittees are establishing their recommendations, needs, and strategies. These divisions are Equine as a part of continuing education, Vet Tech, and Agriculture. As our recommendations have evolved a common goal of advancing education within these divisions of operation has emerged in the form of non-credit credentials offered to the general public, non-credit and credit workforce courses, dual credit courses, and credit courses including those that lead to university transfer.

The recommendations included within Section 2.5, Facilities, provide for the design and construction of a visitor center/student union/offices and community café. This stand alone structure will be significant in bringing the community to the Highlander Ranch and providing a place for students to bond, encourage one another and to exchange academic ideas.

As a result of our emerging common thread of educational recommendations involving the three current aforementioned operational divisions, including the potential opportunities provided by the physical ranch itself, Aimee Edwards, Manager, Ranch Programs; Addis T. McNamara, RAC Committee Chairman, and Bruce Byars, Horse Boarder at the Ranch met on February 23, 2024, to discuss specific educational opportunities. Mr. Byars is an engineer who has served as an adjunct professor at Baylor University as well as being Research Center Director/Project Manager for Baylor University – Office of the Vice Provost for Research from 1998-2021. The ideas and strategies that came from this meeting and the experience of the individuals is reflected in the Section Highlander Ranch Academic Incorporation. A new sub-committee was formed during our March 28, 2024, RAC meeting. This committee and its new chair are as follows:

Highlander Ranch Academic Incorporation

Bruce Byars

2.0 Sub-Committee Goals and Recommendations

The subcommittees have reported back to the RAC and presented their goals and strategies. This information is presented below and is presented in its order of priority.

2.1 General Education:

1. Develop and offer course curriculum for non-credit credentials offered to the general public, non-credit and credit workforce courses, dual credit courses, credit courses including those that lead to university transfer. Course topics could include but not be limited to equine barn management, horse management, aquaponics, and pond management for fall of 2024 and spring 2025.

2. Develop farm to table programs (homesteading) to be offered in the near future.
3. Adding continuing education courses for either certification, credit or for general community education including workforce in horse pageantry or show, breeding of horses and bovine and artificial insemination.

2.2 Continuing Education - Equine:

1. Create and hold a Highlander Ranch Open House (4/20/24) and continue on an annual basis in order to showcase all that the Highlander Ranch has to offer.
2. Add continuing education courses including "Horse Driving and Certification."
3. Add continuing education courses in horse judging.
4. Create an interscholastic equestrian association team that will travel and compete throughout our region.
5. Install all weather, vertical curtains at the northwest façade of the main arena so as to block the adverse weather elements from the spectator seating area located inside the arena.
6. Establish a covered and weather protected seating area for the concession stand with a hard surface floor.
7. Install a roof over an area that is currently void of a roof structure and is located between the two buildings that are serving as stables. This area currently traps stormwater and subsequently floods the adjacent barns.
8. Complete the existing outside arena fence that is located behind and west of the two barns serving as stables. This includes intermediate and top rails.
9. Construct a classroom facility for equestrian training.
10. Construct a steel framed canopy over the outside arena that is located behind and west of the stable barns.
11. Construct an outside or open arena within the eastern portion of the ranch in combination with a trail riding area.
12. Extend the roof on the main arena one structural bay to the east in order to cover the staging area for the main arena.

2.3 Fundraising:

1. Assist in developing a brochure or development plan that can be presented to perspective donors.
2. Solicit a list of perspective donors from committee members and community members that have the potential to be philanthropic relative to the Highland Ranch Strategic Plan and RAC goals and recommendations.
3. Seek and engage volunteers to assist in raising funds for the improvements identified within the recommendations of the RAC.
4. Inform potential donors of need equipment, labor, and materials relative to accomplishing the proposed improvements at the Highland Ranch, which said donations should be made through the McLennan Community College Foundations (Foundations) in order to receive tax benefits. Assist said donors in achieving this goal.
5. Solicit donations through the foundation as required to achieve the goals and recommendations of the RAC in support of the Phase One – Fourth Year Strategic Plan.

2.4 Marketing:

1. Increase brand awareness.
 - a. Work with MCC Marketing on the promotion of programs offered and new programs being released.
 - b. Materials to be generated by MCC Marketing and supplemented by HR Advisory Marketing Committee.
2. Generate high-quality leads.
 - a. This will default to MCC Marketing
3. Establish a Highlander Ambassadors Club that includes scheduled activities at the Ranch for members including special privileges. This Ambassadors Club can become a great source for volunteers.
4. Increase website traffic.
 - a. Improve HR website (link sent out through MCC Marketing) with new materials and photos, continue to update the page. This could fall to HR Office personnel as they are currently the ones handling it or to volunteer whom they assign.
5. Boost brand engagement.
 - a. This will be through social media, web inquiries, and other electronic forms of communications.
 - i. Facebook – currently handled by HR staff.
 - ii. Forums - currently handled by HR staff.
 - iii. Flyers – working with MCC Marketing staff and current HR staff.
6. Improve internal brand.
 - a. Work with current MCC Marketing on sending out updated announcements to all current employees and students.
 - i. Information sent to MCC Marketing group prior to the deadline to be added to electronic sign.
 - ii. News Blast, possible new strategy HR Advisory Marketing Committee working with MCC Marketing staff.

2.5 Facilities:

*Some recommended improvements to the ranch are listed under Equine and Vet-Tech sub-committee recommendations.

1. Design and construct a stand-alone building that would house a visitor center, offices, student union facility and cafe for students and public.
2. Design and construct a new working show barn for high school and home school students FFA and similar organizations to develop and show projects. This would include cows, pigs, lambs, rabbits, chickens, etc., as well as static projects.
3. Design and construct an enclosed and conditioned space for displaying projects and exhibits associated with student competition and/or education. This facility could be a part of the aforementioned working show barn.
4. Design and construct a minimum of 10 RV parking spaces with electrical hook-ups.
5. Improve Ranch roads including repair of existing chip and seal pavement and the repair of existing gravel roads which may include the placement of additional base and/or #3 washed igneous river rock.

2.6 High School Interaction:

1. Communicate to Region 12 ESC school districts what Highlander Ranch provides.
2. Create opportunities for school districts to tour the Highlander Ranch facility.
3. Ask for input from school districts on how they feel they can benefit from the Highlander Ranch facility.
4. Allow for possible community service hours to be fulfilled by area high school students at the Highlander Ranch facility.
5. Survey school districts to gather input on what they believe the Highlander Ranch could do to benefit their students in the future.
6. Determine if dual credit courses or for credit courses can be established at the Highlander Ranch for high school students.
7. Establish space within the proposed working show barn for high school FFA projects relating to livestock.
8. Provide high school programming to improve CCMR points on the STAR tests.

2.7 Vet-Tech:

1. Participation in on-campus and community recruitment and information sessions to increase awareness of the program, the discipline and the opportunity for students.
2. Implement a program information session for prospective students to inform them of the discipline, program requirements and other aspects for success.
3. Create online options for some vet tech courses.
4. Evaluate existing curriculum to determine if it can be revised to support students to faster attainment of credentials while maintaining integrity of programmed meeting accreditation standards.
5. Evaluate and facilitate the possibility of leasing, renting, or providing Highlander Ranch facilities to independent professional practitioners for the purpose of

performing and exhibiting procedures for the educational benefit of students and/or course attendees.

6. Fencing
 - a. Goat Pasture (New fencing or rewired)
 - b. Tilly and Triggers pasture to be re-established.
7. Create a pasture for Cattle (preferably the pasture connecting to the established Vet Tech alleyway; for ease of movement and handling; facilitates CVTEA Skill requirements; provides 28-day holding for rabies vaccination before student handling; 60-day window)
8. Construct a walk off ramp for Cattle Chute – IACUC
9. Abate water leaks in the building
 - a. Classroom side by the men's bathroom
 - b. Isolation room (through the light/ventilation vent)
 - c. Sue's office
10. Holding stalls stripped and reworked.
11. Install new fans in the dog kennels and horse stalls.
12. Insulate the dog kennel roof.
13. Create a covered area in the dog yard.
14. Tint/Blinds in the classroom hallway.
15. Painting/updating the classrooms and hallway.
16. Obtain new horse stock mats.
17. Vet Tech Alley stall clean up (Roll off dumpster could be needed).
18. Updating/painting the doors.
19. Landscaping to match the stallion barn or the rest of the MCC campus.

2.8 Agricultural:

This proposal is seen as the first stage in a multi-year project that will leverage the McLennan Community College Highlander Ranch to:

- **Phase 1** Design and administratively establish an Agriculture Program to expand educational and service operations of the ranch.

- **Phase 2** Refine and offer an Agriculture Program presented as best management practices for community and industry.
- **Phase 3** Expand into academic programs, leveraging the Highlander Ranch facilities as an immersive multidisciplinary laboratory and teaching environment for students.

The development of a new Agriculture Program (AP) offered at McLennan Community College increases the student's marketability to prospective employers and also offers transfer options for those who wish to continue their education to the bachelor's degree level or beyond. MCC's Sustainable Agriculture Program is developed with two options to meet the needs of students. These options build upon each other to form an educational ladder that encourages students to maximize their educational achievements.

Funding

Since all infrastructure resources are currently in place to fully develop the curricular program, no funding is immediately necessary. However, given the nature of agriculture in Texas, numerous sources for funding are possible through government agencies as well as industry. It is recommended that all options be explored to fund operations and expansion of SAP as soon as it is established. Funding agencies at the federal level that may be applicable to this effort include:

- USDA – Natural Resources Conservation Services
- USDA – Office of Rural Development
- USDA – Agricultural Research Service
- US Department of Energy
- US Environmental Protection Agency
- US Department of Education
- US Forest Service

This list is not comprehensive and there are additional funding sources available through both federal and state sources as well as through industry collaborations. Additionally, the above agencies may be approached in academic partnership to offer opportunities for internships, cooperative studies and/or employment for students.

Organizational Structure

The AP engages a broad community and should include the following key stakeholders:

AP Advisory Board

The Advisory Board should be comprised of a diverse group of faculty, staff, and agricultural industry leaders that seek to promote educational opportunities at the AP. This committee is responsible for making general programmatic decisions, creating policy, and creating and identifying synergies between programs, activities, and users. The Advisory Board should additionally seek to facilitate communication and collaboration between stakeholder groups.

Faculty

The AP serves as a living laboratory and outdoor classroom for the college. Faculty bring their students to the Highlander Ranch for teaching and instruction; class visits showing in-situ examples; and/or to work on projects that further explore concepts that are being taught at the ranch and through collaborative programs. Department representatives should include faculty from Agriculture, Engineering, Environmental Science, Biology, Chemistry and Business.

Ranch Manager

The AP Ranch Manager additionally plays an active role in educating and mentoring on the best practices of the AP at Highlander Ranch. The AP Ranch Manager is tasked with providing operational advice, collaborative opportunities with faculty, scheduling short courses and semester length courses, and overseeing daily operations. Further, the AP Ranch Manager is tasked with implementing the policies and decisions made by the AP advisory board to ensure the site is supportive for programming and activities.

It is important to note that is not an inclusive list and the AP is a highly collaborative program where new people and ideas should always be welcome.

Programmatic Design

The AP is designed to leverage the Highlander Ranch as the focal point for all activities. No other college has a facility with the multidisciplinary resources available such as the Highlander Ranch. Designed as an equestrian facility, the ranch currently supports equestrian, veterinary technician, and agriculture programs. However, the combination of infrastructure includes features that are ideally suited for education in biology, environmental science, engineering, business and natural resources. The ranch and the AP program also ideally complement programs at both Tarleton State University and Texas Tech University, allowing MCC to further collaborate academically with those two institutions, which are already part of the University Center.

The following courses are general in nature. On-site resources that support the following curriculum will be documented within each individual course as they are developed depending on department involvement and planning. In this way, not only does the program develop resource-driven educational opportunities but allows easy metrics tracking to demonstrate positive Return on Investment (ROI) for courses that follow back to department and college programmatic metrics.

Potential Curriculum

The AP curriculum is designed around a set of fundamental courses that address the science and business of sustainable agricultural practices. The courses are typically designed to be modular in construction. i.e., they can be utilized as a set of community interest short courses, or easily expanded and integrated into semester-level credit courses. They are also designed to be integrated into and cross-listed between departments where individual faculty can take the lead, thus increasing enrollment across the college. Departments leading the academic semester-length courses should be noted with each course.

Introduction to Sustainable Agriculture

Department(s) – Agriculture, Business Designed to provide an introductory overview of the issue of sustainability in agroecosystems, this course introduces the concepts and principles of agroecology as applied to the design and management of sustainable agricultural systems. Includes an examination of case studies to connect sustainable agriculture principles to actual farming practices.

Composting for Commercial Organic Farming and Gardening

Department – Agriculture Composting is the cornerstone of soil fertility management in all segments of organic agriculture production. Successful composting requires at least a minimum of technical knowledge of soil structures and organic matter decomposition processes. Topics will include these basics and a survey of a variety of composting methods. Focus will be on composting for small operations, but the information will be of almost equal importance for dairy farmers or hay producers, as well as for residential and commercial settings.

Organic Crop Planning and Production

Department – Agriculture

A hands-on practicum in organic farming, this course covers planning and production practices for market farms. Topics include seasonal crop selection, planting procedures, cultural practices, harvesting and post-harvest for organic production of vegetable and grain crops in small commercial operations. Both manual and machine powered management techniques will be discussed.

Specialty Crop Production

Department - Agriculture

Production of specialty horticulture crops including marketing and management decisions. Emphasis on Central Texas fruit, vegetable and berry production. Includes field trips and guest speakers.

Direct Farm Marketing

Department(s) – Agriculture, Business

This class is an overview of marketing practices used by farms to provide local food direct to consumers. Includes innovative marketing practices for the small to medium size grower, post-harvest handling of produce, food safety, promotion and distribution. The class includes talks and lectures from local producers.

Integrated Pest Management

Department(s) – Agriculture, Biology, Chemistry

This course provides a fundamental understanding of the theory and practice of modern integrated pest management strategies and will cover a wide variety of pest types (e.g. insects, plants, fungi, nematodes) and methodologies (e.g. biological control, pesticides, hormone disruption, sterile insect techniques), with a focus on biological control strategies for insect pests in agricultural and natural systems.

Soil Science and Conservation

Department(s) – Agriculture, Environmental Science

This course will introduce the critical importance of soil in sustaining life on land and in maintaining food production capabilities. An overview of basic soil science concepts will be followed by an introduction of ecological principles that define below ground ecosystem functioning.

Agricultural Hydrologic Systems

Department(s) – Agriculture, Environmental Science, Engineering

This course provides a comprehensive study of surface water and groundwater hydrology, focusing on analysis of observed hydrologic and climatic variability, and their interpretation in terms of the underlying biological, geological, and chemical processes.

Environmental Monitoring

Department(s) – Environmental Science, Engineering

This course covers the field and laboratory testing and analysis techniques of environmental monitoring to meet state and federal guidelines. Monitoring areas include, but are not limited to, soil and sediments, water, and plants and animals. Field geological, water quality, and ecological census techniques are taught through hands-on, practical student learning. Students will also learn applicable laboratory skills and maintaining quality assurance through sampling handling, storage, and physical and chemical measurement techniques. Additionally, students are taught how methods of data gathering and sampling, analysis, and presentation can affect environmental interpretations.

Advanced Agroecology

Department(s) – Agriculture, Biology

Ecological concepts and principles are applied to the design and management of sustainable agroecosystems. Alternatives for agriculture are discussed in terms of ecosystem structure and function.

Equine Management

Department – Agriculture

Equine management and care techniques with hands-on experience. Understanding of all aspects required to manage an equine facility including production systems, personnel, marketing and biological systems.

Bovine Management

Department – Agriculture

This course covers production facilities, how to meet the nutritional needs of cattle, and how to manage pasture and forage. Topics also include breeding and managing cattle through the reproductive cycle, as well as how to identify and correct cattle health problems. Effective ways to market cattle and beef products, and how to handle the financial planning for beef cattle production is also covered.

The committee's next object is to establish the specific strategies required to accomplish the goals outlined in the aforementioned subcommittee recommendations. This report will be submitted to the McLennan Community College Board (Board) as well as to the

MCC administration. Upon review and comment of the Board and review and comment by the MCC administration, the committee will finalize and prioritize our recommendations for final submittal to the Board.

3.0 Highlander Ranch Academic Incorporation

Individual academic programs can benefit immensely from the site for use as a “working laboratory”. This includes traditional academic programs such as Agriculture and Veterinary Tech Programs, but also other programs that need laboratory and learning opportunity expansion within their curriculum. No other facility like Highlander Ranch exists at any junior college in Texas giving MCC a unique asset to fully develop into a “spotlight facility” on campus.

The following examples of resources that can be integrated into existing curriculum have zero cost associated with them and serve to strengthen academic curriculum in specific ways. This includes both existing courses and any new courses developed in the future including partnerships with existing programs at Texas Tech and Tarleton.

It should be noted that the following are not the only programs that can utilize the Highland Ranch facilities but can be implemented nearly immediately. Many of these resources are cross functional between programs which strengthens curriculum while incurring no additional costs for program redundancy.

Environmental Science

The ranch is an ideal location for numerous different environmental science laboratory activities. The ranch has two stream channels, upland drainage areas, and three water features. These features can be utilized to teach topics such as stream channel erosion, watershed assessment, water quality and physical hydrology. The site also can be used to teach climate effects on the environments in both open and native grassland areas.

Geoscience

The ranch itself sits on a unique geological area encompassing both bedrock and floodplain terraces, which are ideally suited to teach process geomorphology concepts as well as erosion. Additionally, there are three different and distinct soil types to illustrate topics such as infiltration and soil formation.

Chemistry

Given the uniqueness of the geological, soil and plant features, field, soils and atmospheric chemistry can easily be studied and illustrated by developing specific educational (study) sites.

Biology

The ranch provides an excellent learning space for the fields of biology and ecology. Small mammal and reptile habitats exist as well as different types of native trees, grasses and microorganisms. The ranch provides students with the opportunity to see and study complete ecosystem dynamics.

Business

Highlander Ranch is the ideal location to illustrate operational concepts of Agribusiness and Agricultural Economics, both of which are Bachelor and Graduate degree programs at Texas Tech and Tarleton.

Agriculture

The ranch provides the perfect setting to service the existing agricultural program, but also to further develop the program and add programs such as Agriculture, Soil and Crop Science (in cooperation with biology and chemistry) and Agricultural Engineering (in cooperation with Engineering). The development of an Agriculture Program is detailed in an accompanying document.

Engineering

The ranch has resources that can support curriculum and illustration of engineering planning, surveying, geotechnical aspects of soils, alluvium, and bedrock, surface water hydrology and structural methods. Critically, the ranch provides space and resources to support development of programs for Agricultural Engineering as well as Geotechnical Engineering.

Strengthening academic ties with university partners at both Texas Tech and Tarleton is paramount. The Highlander Ranch provides an excellent site for new academic collaborations. As mentioned above, but strengthening existing academic courses and developing potential new courses that match university partners new opportunities to grow enrollment can be realized. This is especially true when working with the college's already excellent and dynamic staff. By providing them with additional opportunities to strengthen curriculum, additional new degree programs will develop at the university partnership level.

For example, degrees featuring Agriculture and Natural Resources Management are both available through Texas Tech and Tarleton. By utilizing Highlander Ranch to leverage resources, new pipelines directly into those programs can be realized. Individual programs and associated metrics can be easily examined to look at these types of new program feasibility.

4.0 Future RAC Tasks

It is the intention of this committee and our commitment to develop strategies for success relative to our goals/recommendations and to engage in and facilitate the completion of same. These strategies will be presented in "Report Two." This work will include the coordination and development of timelines and costs or budgets. Also, the RAC will assist in developing marketing leads or potential donors to support our goals and recommendations in a coordinated effort with the MCC Foundation.