

THE NORTHERN MARIANAS COLLEGE FACILITY MASTER PLAN

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RE-IMAGINING + REBUILDING

THE ENGINE THAT DRIVES ECONOMIC GROWTH, RECOVERY AND THE SOCIAL AND CULTURAL VITALITY OF THE CNMI



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Table of Contents

Executive Summary	2	F. Architectural Aesthetics	60	Office of Student Activities and Leadership	85
Background for the Northern Marianas College	3	G. Way Finding	62	Executive and Administration Office Services	85
NMC Master Plan Goals and Objectives	4	H. Cultural Design Element	64	NMC Foundation	85
NMC Community Concept Plan	8	I. Proposed Color Palette & Text Guidelines	67	Office of Institutional Advancement	86
NMC Development Plan	10	Campus Sustainability	68	Facilities	86
A. As-Terlaje Campus Site and Infrastructure	10	Resilience on Campus	68	Appendix	88
B. Location and Vulnerability to Hazards	11	NMC Campus Master Plan Analysis Methodology	70	A. Meeting Minutes of Departmental Interviews	88
C. Topography	11	Survey and Assessment	70	B. Building Program Test fits	120
D. Campus and Surrounding Land Use	11	Enrollment Overview	70	C. Image Reference List for Design Guidelines	128
E. Soils and Ecology	12	CNMI Demographics and Variables used in			
F. Groundwater	13	Enrollment Projections	71		
G. Biological and Botanical	13	Public School Systems Graduation Rates and			
H. Archaeological	13	Enrollment Statistics	72		
I. Environmental Impact Assessment	13	Public High School Enrollment	73		
J. Existing Roadway Infrastructure	13	Enrollment Projections	74		
K. Planning and Design Goals and Objectives	16	Analysis of Classroom Utilization	74		
L. Implementation Plan	17	Campus Capacity	74		
M. Proposed Telecommunications Scope of Work	21	Post Disaster Campus Demolition Program	75		
N. Criteria and Standard	21	Proposed Facilities Master Plan Programs &			
O. Qualifications	21	Activities	75		
P. Proposed Master Plan Outside Plant		NMC Planning Assumptions	75		
Infrastructure	22	Development Concept for the Northern Marianas			
Q. Proposed NMC Master Plan Inside Plant		College	75		
Infrastructure	22	Development Plan	75		
R. Back Up Power	23	Existing Facilities (Pre-Typhoon Yutu)	76		
S. Photovoltaic System	24	Classroom Utilization	76		
Site Development Concept Studies	25	Pandemic Instructional Hours	76		
Facilities Master Plan Design Concept	29	NMC Existing Organization	77		
Isometric view of Master Plan Concept	30	Review of Degree Programs	78		
Phase 01 Initial Construction	31	School of Education	78		
Phase 02 Future Expansion	32	School of Business	78		
Phase 03 NMC Campus Completion	33	Liberal Arts	79		
Building Program Summary	34	AAS Nursing	80		
Phasing and Implementation Plan	36	AAS Natural Resource Management	80		
Building Cost Estimate Summary	39	AAS Criminal Justice	80		
Design Guidelines	46	AAS in Hospitality Management	81		
Overview	46	Language and Humanities	81		
A. Reshaping the Educational Learning Environment	46	Science, Math, Health and Athletics	82		
B. General and Regulatory Guidelines	50	Cooperative Research Extension Educations			
C. Landscaping	50	Services	82		
D. Circulation	58	Adult Basic Education	83		
E. General Building Interior	59	Community Development Institute	84		

NORTHERN MARIANAS COLLEGE

2021 FACILITY MASTER PLAN

EXECUTIVE SUMMARY

The Northern Marianas College and the entire Northern Marianas Islands have persevered through enormous challenges in the past 5 years. The College leadership has undertaken self-analysis and reflected on the Northern Marianas College plan for rebuilding following these unprecedented challenges. A key step to The Northern Marianas College's recovery effort is a Facilities Masterplan that clearly maps the college's physical recovery and establishes a new campus that will meet current and future needs for NMC and for the community it serves.

The statement from the 2015~2020 Strategic Plan is even more relevant now than when it was originally penned:

“Northern Marianas College will serve as the engine to drive the economic growth and the social and cultural vitality of the Commonwealth”

In the midst of ongoing recovery from Typhoons Soudelor and Yutu, and the challenge a worldwide pandemic the NMC mobilized their planning and rebuilding effort to come back stronger and more prepared to lead the way back to prosperity for the CNMI.

The Northern Marianas College's Facilities Masterplan reflects NMC's vision for the Campus, combined with the planning, architecture and engineering programs for a campus equipped with the resilience to withstand the harsh environment of our region, and the ability to recover from a host of manmade and natural challenges.

NMC has continued its outreach to stakeholder groups to stay current with the needs of the community. The Facilities Masterplan reflects the evolution of the Educational Goals and the physical spaces needed to support those goals by providing a campus master plan that can evolve as the needs of the community grow and as technology and education tools of NMC's programs become more integrated.

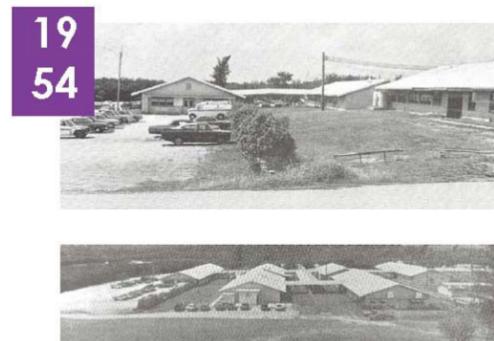
The Facilities Masterplan takes a close look at buildings and spaces that engage and showcase the social and cultural vitality of the commonwealth with diverse instructional spaces, iconography and design that reinforces the goals of the college and the sense of community.

One of the most important aspects addressed by the Facilities Masterplan is the significant damage done by the Typhoons that destroyed many of the older and outdated, buildings. The Facilities Masterplan provides the framework to rebuild the campus in keeping with the priorities of resilience and sustainability in an optimal learning environment.

The original campus was originally built as a hospital, which was re-purposed when the site was turned over to the College. NMC has always struggled with substandard classrooms that were undersized and not configured for instructional use. The original classrooms also suffered from deferred maintenance and non-code compliant issues.

With the destruction caused by the typhoons the campus is no longer hampered with the challenge of retrofitting and repurposing the facilities as approximately 70% of the campus structures were destroyed by the typhoons. The College is now in position to start with a clean slate and design and construct classrooms tailored for its education programs.

A large component of a conventional Facilities Masterplan effort is assessing the existing (pre-typhoon) buildings / classrooms / offices in terms of adequacy. Stakeholders participating in the survey for this Masterplan were interviewed about both the current campus and the pretyphoon campus to form a frame of reference for establishing the goals and objectives. The current site includes emergency disaster provisions throughout the site including interim temporary classrooms that cannot be used as a comprehensive baseline assessment of student satisfaction with campus facilities.



Dr. Torres Memorial Hospital



Northern Marianas College
40th Year Anniversary
Post Typhoon Yutu



Northern Marianas College Established



Northern Marianas College
Facilities Masterplan

BACKGROUND FOR THE NORTHERN MARIANAS COLLEGE MASTERPLAN



The Northern Marianas College provides the majority of the CNMI's Post-Secondary Education needs and accommodates a variety of community education and training goals. NMC has robust community-wide education and outreach programs.

NMC provides a variety of programs including; a traditional 4-Year degree program for students seeking a professional career in education, AAS degrees for students who are seeking improved employment opportunities, certificate programs, alternative education, adult basic education, research and extension services. NMC also provides host of activities and training programs for small business development, health education, career guidance and recreational events throughout the year.

The Northern Marianas College regularly assesses its strengths and weaknesses with Strategic Planning to guide activities. NMC engaged BECA in 2010 to perform a Facilities Masterplan for the College. The circumstances for that master plan were significantly different from the 2021. This Facility Masterplan reflects a very different set of conditions and objectives.

During the 2010 Facility Masterplan effort, emphasis was placed on retaining and modifying existing buildings and facilities for expansion. The necessity for incremental renovations of the existing facilities to expand building capacity was not ideal and often resulted in compromised solutions.

Overall the greater challenge of planning the college campus had to be circumvented into planning for incremental improvements to existing facilities to make them perform more like a college campus, even though not originally intended for that purpose.

The 2021 Facilities Masterplan does not carry that burden as the majority of existing buildings have been destroyed by typhoons. This master planning effort is provided the opportunity to focus on post-secondary education from scratch, in an effort to achieve the College's goals.

NMC MASTERPLAN GOALS AND OBJECTIVES

Establishing the NMC's GOALS AND OBJECTIVES for the educational programs, character, environment, capability and capacities for a new campus provides the framework for the campus master plan. The NMC Leadership identified characteristics of the campus, culture and priorities that make NMC unique.

GOAL 1 PROVIDE A QUALITY EDUCATION WITH APROPRIATE FACILITIES THAT ACCOMMODATE A GROWING CURRICULUM

New instructional spaces will be provided in configurations and quantities that meet educational standards for the campus's target programs plus potential for growth over the next 5 and 10-year horizons. The 2021 Facilities Masterplan establishes consistent education specifications across the campus providing NMC with flexible space and configurations that allow the instructional faculty to preserve teacher-to-student ratios and the close interpersonal interaction that NMC is known for (contrasted with the large and impersonal environment of mainland colleges).

GOAL 2 BUILD RESILIENCE INTO THE NEW CAMPUS

Resilience takes many forms for the NMC campus. The master plan targets a variety of resilience strategies designed to enable NMC to return to a functioning, pre-event condition quickly. Although there is no way to know all the challenges that can occur on a campus there is a great deal of institutional knowledge about natural disasters like typhoons, earthquakes and landslides that can be mitigated with improved building design and technology strategies. Infrastructure resilience can be improved with careful analysis, identification of potential weaknesses, use of redundant systems and other best management practices to strengthen water, power, sewer and communication systems for the campus.

Manmade, biological and bio-terrorism exposure is also studied and strategies provided to minimize the exposure and potential damage from these sources and improve overall infrastructure security.

GOAL 3 INTEGRATE INSTRUCTION, RESEARCH RECREATION & COMMUNITY OUTREACH

Past campus planning guidelines prioritized certain campus activities while less emphasis to other activities. Contemporary planning guidelines that promote

sustainability and smart growth are redefining campus organization into vibrant places.

Strategies prioritize mass transit and pedestrian oriented space planning. The NMC Masterplan will encourage diversity in the placement of support services and amenities that result in physical connectivity around a series of activity hubs with a natural flow between these hubs.

Equal emphasis is placed on the design and flow of outdoor spaces, walkways and a variety of gathering areas that reinforce the NMC campus as a hub of the island. As resources become available additional buildings such as Dormitories for foreign students (and students from Tinian and Rota) can be added on campus or adjacent to the campus, helping to integrate the neighborhood and business community into campus life.

GOAL 4 PROVIDE A ROBUST WORKFORCE DEVELOPMENT FACILITY

Workforce Development is, in many ways, at the core of NMC and a key priority of the master plan process. Beyond the conventional role of a college, NMC has become the path to a better life for many NMI residents.

By recognizing and building capacity for NMC's role for non-traditional students and stakeholders (In addition to the degree seeking students), the College provides the larger community access to education and programs that improve their lives without necessarily fitting into a degree program. The Workforce Development Institute is the program leader and goes beyond traditional academic roles providing education paths that connect stakeholders to career opportunities and improve upward mobility with certificate programs tailored to community needs.

GOAL 5 PROGRAM THE CAMPUS FOR TECHNOLOGICAL ADVANCEMENT

The ideal for NMC's master plan is to meld technology of the physical campus buildings and systems into the curriculum offerings. Smart building technology integration can allow for students, faculty and stakeholders to integrate the technology into learning activities. As careers in Building information Management (BIM) Systems and sustainability building features grow, career opportunities in these fields grow as well.

Building Information Management systems (BIM) can integrate into the campus experience in seamless ways. Building diagnostics and reporting of air conditioning systems, fresh air intakes, security and perimeter access controls and surveillance, are expanding the view of technology that had previously been limited to the laptop, workstation and phone.

In the Nursing Department Labs fresh air provisions, dehumidification, security, tracking of instruments and materials, air conditioning controls and communication can be provided in an immersive environment. The key step is to program the provision for such expansion, if and when, NMC is in a position make selections for advanced building technology integration.

The master plan also reflects the College's connectivity action plan to upgrade fiber, WIFI and distribution on campus along with setting up IT and Data Departments and positioning it to meet the College's data needs for the next 5 to 10 years.

The opportunities to live stream lectures, instruction and team collaborations from remote providers into the campus spaces will expand NMC's revenue generating potential. Migrating education products and services to an online environment with strong connectivity to on-campus base is desirable.

GOAL 6 PROVIDE AN OVERALL IMPRESSION OF QUALITY ON CAMPUS

NMC is now in the enviable position of defining the character and capability of all its campus structures. The inclusion of US Federal Disaster Recovery funding and Economic Development Administration (EDA) funding supports the advocacy of best management practices and architecture and engineering design standards in compliance with current Building Codes.

A key step is to make quality and high aesthetic standards a requirement for new NMC buildings. This includes specifying building materials that withstand the punishing environment of the CNMI while minimizing maintenance requirements.

Avoiding materials that deteriorate quickly in the CNMI environment will support campus aesthetics.

Providing clear and concise building materials and systems performance requirements is key to all building A&E and construction solicitations.

Strengthening procurement regulations that focus on function and quality is important. Often procurement regulations focus too much on lowest price or on availability. This can compromise quality for the sake of convenience thus lowering

the standard. Empowering the procurement office to incorporate criteria for the selection of builders with metrics showing a thorough grasp of high quality construction standards, quality control processes and providing evidence of experience needed to construct a coordinated and high quality product is equally important to competing companies submitting bids with good value.

Upkeep and maintenance support the quality image of the campus. Strategies include maintenance provisions within construction contracts for new buildings and systems where possible and aids the efforts of the NMC property maintenance team.

As a center of excellence, the NMC's commitment to quality is embedded in all levels of the Institution and from all the stakeholders. All elements, systems, buildings, services and aesthetics represented in the Facilities Masterplan should support and uphold the qualities and standards established herein. Thoughtful investment into the Facilities Masterplan and the resulting building program should instill a sense of pride for students, faculty and stakeholders. Value in the education programs at NMC is reflected in the level of effort, care and commitment to re-imagining the campus.

Cross discipline buy in and support for the quality and caliber of education and facilities at NMC delivers comparable quality and caliber of college experience as at mainland US institutions.

Amenities on campus, contemporary environment and the quality of spaces encourages students, faculty and community stakeholders to view the campus as a community hub, and a desirable place to spend time beyond the required attendance in classes. Spaces and the environment encourage collaboration; provide access to resources, amenities and services and a safe, inviting place to spend time.

GOAL 7 PROMOTE NMC AS THE DESTINATION FOR EDUCATION, COMMUNITY AND CULTURE

The Facilities Masterplan promotes a modern campus embedded with the culture of the Northern Marianas and the region. The master plan and design efforts will showcase the NMC's central role in the islands with iconography, patterns, motifs, graphics and connection and flows of interior and exterior spaces. With well-designed and apportioned spaces in a contemporary setting, NMC will attract students and community members and make it a desirable place for students to spend time beyond just the need to attend classes. NMC can be a daily destination for stakeholder and a central hub of activities for the community.

The new campus will provide a variety of spaces of different sizes and configurations that allow for gatherings, interactions and cultural activities. Spaces are identified for the celebration of song, presentations, lectures, speeches, debate rallies for campus causes, poetry, dance, art, crafts, competitions and other activities that reflect a diverse and inclusive community.

The landscape and design of the exterior spaces will feature local languages in interpretive signage and art and sculpture across the campus.

Plants relevant to local healing (amot-siha) and landscape and botanical flora are featured as teaching tools. Landscape will showcase NMI's connection to the natural environment and plants that play an important role in the region.

The FMP Design Guidelines advocates for the inclusion of cultural and architectural heritage in the design of proposed buildings and grounds in a meaningful way.

The new campus will support organizations like the Office of Student Activities and Leadership with program spaces for traditional activities, celebrations of the NMC heritage and activities designed to integrate international students into the campus fabric. Spaces will enable the sharing of language and culture from international students to help build understanding and diversity.

GOAL 8 CREATE A PEDESTRIAN FRIENDLY CAMPUS WITH COMPREHENSIVE SOLUTIONS FOR TRAFFIC, PARKING & INFRASTRUCTURE

To help incorporate multi-use strategies and smart growth, the Facilities Master Plan develops the campus as a series of spaces with multiple uses and a natural flow between building interiors and exteriors. The hierarchy of the campus is interconnected by activity nodes like courtyards, indoor-outdoor seating and walkways linking physical spaces to views, covered outdoor areas, and a variety of shelters. Multiple points of access are spread around the perimeter of the campus providing mass transit designations. Primary and secondary entry points to the campus are also identified to keep walkways and gathering areas safe at all times.

The provision of a perimeter walking pathway serves several purposes - defining campus boundaries, providing generous safe pedestrian circulation, jogging and walking paths for the community. Additionally the walkway will serve as both a buffer and a connection to walkable attractions and amenities off campus.

Open spaces and small pocket parks are distributed along the walkways to help identify the hierarchy of spaces.

Covered walkways support pedestrian access during inclement weather and shelter from direct sunlight. Smart growth planning has proven that when clean, well lighted, well maintained and convenient walkways are provided students are motivated to walk and are less inclined to rely on motor vehicles.

Having a variety of food and beverage options, services and retail support on campus and within walking distance invites pedestrian circulation.

Personal vehicle parking is distributed in key locations around the perimeter of the campus, thus keeping the central nodes free of vehicles except those for emergency and service.

As part of the Sustainability program locations of bicycle racks and potential future rideshare bikes, are designated in an effort to minimize the use of motor vehicles. Opportunities to shower and clean up near the bike racks and safe storage are called for in the Design Guidelines.

GOAL 9 PROMOTE SOUND ENVIRONMENTAL POLICIES AND SUSTAINABLE PRACTICES

Prioritization of sustainability and environmental stewardship is embedded in the Facilities Masterplan.

Protocols for stormwater management, preservation of green spaces, minimizing reliance on use of motor vehicles and reducing greenhouse gases are incorporated into the Masterplan. Integrating mass transit, reducing parking footprints, enabling the use of Low Emissions Vehicles (LEV) for student and campus maintenance vehicles with charging stations is included. Programs are provided for rainwater harvesting and storage and campus-wide recycling stations are designated to reduce the burden on landfills.

Water efficiency programs include use of local plant materials that do not require irrigation and other site provisions for an efficient water system. At the building level the Design Guidelines include the requirement for water meters and water efficient plumbing fixtures and controls and roof-mounted solar water heaters where hot water is required.

Site Lighting Design Guidelines call for PV LED site lighting and provisions to limit light pollution-avoiding over illumination of the campus i.e. stadium and big-box parking lot lighting that is a waste of energy and causes harm to birds and other wildlife. Building Design Guidelines include the use of energy efficient air conditioning systems and controls.

Renewable energy goals included in the Facility Masterplan reflects improved technology and the need to acquire and maintain batteries for storage of solar energy. Enhanced commissioning and energy metering are prescribed for buildings as part of the Building Information Management (BIM) system recommendation that provides consumption tracking and systems reports to identify potential issues with equipment.

Materials and Resource guidelines includes standards for construction and waste management to reduce the burden on landfills. The Design Guidelines and procurement addresses materials with inherent sustainability features such as recycled porcelain and vinyl flooring products and low emissivity glazing.

Indoor Environmental Quality has the dual goal of reducing damaging chemicals and exhausts and emissions from a building into the environment

Food waste on campus can be addressed with policies, and food sorting provisions in the Food & Beverage program.

GOAL 10 PHASING IMPLEMENTATION PLAN

Phasing of the Masterplan is an important step that can save money and direct resources available on campus in an optimal way. Often phasing for a particular Capital Improvement Project (CIP) is determined by the budget. Beyond this, phasing can enable NMC to budget resources for large campus investments based on the campus goals.

Phasing considers cost and priority. As an example, focusing on infrastructure early can improve funding initiatives for subsequent buildings and systems by preparing the site to receive new buildings more efficiently. Often grants and funding for a building is more viable if the infrastructure is always in place.

Other phasing priorities express provisions for students first and direct instructional needs and campus accessibility.

GOAL 11 EXPANSION OF NURSING AND STUDENT WELLNESS

NMC has provided focus areas programmed for growth and expansion in response to community needs and assessments of the Government. As the community grows and ages, demand for Nurses and related training is expected to grow.

In response to community needs the provision of on-campus wellness facility is incorporated. The space may be programmed for basic health services including nutrition counseling, basic vaccinations and similar services.

Goal 12 PROVIDE INTEGRATED CAMPUS SAFETY FOR USER'S, FACILITIES AND SYSTEMS

The worldview of health and safety has changed dramatically in response to events in recent years.

The increase in on-campus violence seen across the nation has made campus safety much more complex and a priority for planning. In its most basic form campus security has a finite number of levels: security at the campus level, security at the building level and security at the room or floor level. Each of these can be programmed for access controls, security cameras, emergency alarms and response reporting.

There are passive security measures that follow established design protocols. These include maintaining clear site lines, avoiding "corralling" where students can be trapped (individually or in groups) and harmed, providing "areas of refuge", alternate egress paths and other crowd control and crowd avoidance strategies.

Other safety measures include protecting systems and materials that students and faculty may come into contact with from being tampered with. These include potable water sources, air conditioning and ventilation systems. Cyber attacks can affect automated systems like alarms, elevators and power systems.

Other key strategies involve contamination control and exercises and simulations for scenarios such as social distancing, and large gathering movement control and isolation.

Isolation simulations for contamination mitigation can provide guidance for space planning. Buildings can include provisions for flex space, alternate locations and off-campus options.

Pandemic responses to capacity planning - outline AIA Campus planning 12- points such as providing on campus sanitizing stations and air conditioning sterilization capabilities.

GOAL 13 PROVIDE FACILITIES THAT SUPPORT ENTREPRENEURSHIP & SMALL BUSINESS

The NMC Masterplan includes provisions and guidelines to support the College's effort to provide small business incubators. Key physical conditions are providing a collaborative work environment for entrepreneurs to guide them from the early planning stages to independence. The NMC Campus will provide spaces for classes and workshops, and resources such as accounting, business law, marketing graphics, research and development which can be cost prohibitive or inaccessible to start-up businesses.

With NMC's expanded support facilities the success rate of entrepreneurs can improve with the guidance and resources to bring their ideas to life. The Northern Marianas College campus provides physical and intellectual networks for traditional and new business ventures, for example, people in agriculture can learn about new crop growing technologies from Cooperative Research Extension and Education Services (CREES), learn the fundamentals of business law and finance and connect with marketing resources, all at the College.

NMC can also help bring financial resources to new business ventures by using its incubator environment for new businesses to market their products to potential consumers and to find investment partners.

Having access to NMC's physical working spaces, concept development, market testing, business setup, manufacturing guidelines and computer assistance is an asset to start-up businesses.

NMC COMMUNITY CONCEPT PLAN

With pronouncement by the government that a concerted effort will be made to develop Saipan into a world class tourist destinations, preparation of the NMC Facilities Masterplan is timely. Results of the Plan can significantly contribute to that effort. Not only can and will the NMC campus improvements provide an attraction for tourists but also provide inspiration for existing businesses surrounding the campus and along Chalan Monsignor Road between the campus and the Airport Road traffic signal, but enticement for new businesses to locate here. Numerous businesses within walking distance from campus already exist.

Arriving visitors first impression of the island is planted in the drive between Airport Road and the crest of the As Terlaje hill at the NMC traffic light. The impressive view of the lagoon as one descends the hill is not duplicated anywhere else on the island.

Implementation of the Masterplan will provide the spark that ignites improved development of the surrounding area and along Chalan Monsignor Road.

Several housing projects, food stores, coffee shops, snack bars, restaurants and churches already exist along this portion of the road. Planting of flame trees, other colorful landscape materials, shade trees and removal of unnecessary paving will contribute to beautification of the area.

Construction of protected sidewalks and security lighting will promote use by, not only NMC students, but nearby resides as well.

The community concept plan diagram depicts the NMC campus and the portion of Chalan Monsignor Guerrero between the Airport Road traffic signal and the crest of As Terlaje hill. Consolidation of the results of the NMC Facilities Masterplan and improvements along CMG will result in a more cohesive community, as referenced in several of the Goals included herein, and a new "college town".



- Potential area to promote future commerce
- Existing Cafe's / Deli / Laundry Service
- Existing Housing
- Existing Grocery Store
- Addition of Flame trees

figure 1. Everyapixel. Blooming flame trees along the road on Saipan, Northern Mariana Islands. [Photograph]. Retrieved from <https://www.everyapixel.com/image-3441774469313037532>

figure 2. Angus, Hilary. (2016 Feb. 2). 70% of US Mayors would prefer bike lanes over more parking or car lanes. [Photograph]. Retrieved from <https://www.pinterest.de/pin/393361348702634403/>

figure 3. Klingener, Nancy. (2021 Feb. 9). No Walking Over The Overseas Highway: State Cancels Pedestrian Bridge, At Islamorada Council's Request. [Photograph]. Retrieved from <https://www.wim.org/news/2021-02-09/no-walking-over-the-overseas-highway-state-cancels-pedestrian-bridge-at-islamorada-councils-request>



fig. 1 Sample image of flame trees along road edge

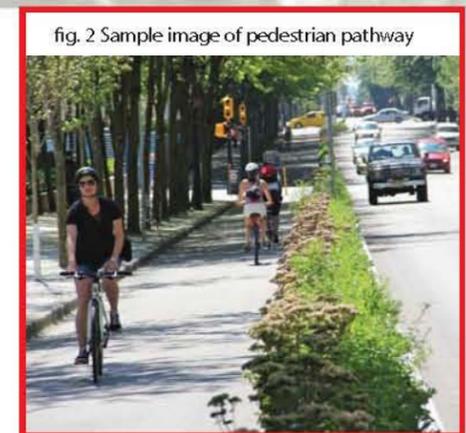


fig. 2 Sample image of pedestrian pathway



"HABA ADAI WELCOME TO SAIPAN" SIGN FOR ARRIVING VISITOR'S. OPPOSITE SIDE "SI' YU'US MA'ASE THANK YOU, COME AGAIN"

fig. 3 Sample image of Pedestrian Bridge

NMC DEVELOPMENT PLAN

AS-TERLAJE CAMPUS SITE AND INFRASTRUCTURE

SECTION OVERVIEW

The NMC Facilities Masterplan is intended to mirror a sophisticated academic vision for the future and to guide the creation of an enhanced learning environment with lasting value. This plan describes NMC's overall goals and objectives in achieving the desired vision over the next 5 to 10 years.

To achieve the overall goals and objectives of NMC, planning strategies related to land use, traffic circulation, public transportation, parking, utilities, stormwater, water, sewer, power, telephone and communication, and supporting infrastructure integration into the campus facility are provided. Sustainability, resiliency and innovation guide the rebuilding process of the NMC campus in each phase.

This section also explores new programs for progressive leadership in environmental and sustainable movement in the CNMI.

CAMPUS FACILITY MANAGEMENT

During the redevelopment process, various stages of design and construction of the overall improvements is expected to and require substantial attention.

Before the campus development process takes place, it is highly recommended that a program management be assigned to oversee the campus redevelopment program, funding, reporting, procurement and construction of buildings and support systems. This division is to be responsible for initiating the process and overseeing the daily operation of campus infrastructure, landscape, building repairs, and maintenance. Individuals overseeing this program would report to the NMC Leadership and ensure the projects described in the plan are executed and completed as planned.

This division would consist of individuals with design and construction experience with emphasis in team organization, financial reports, procurement of A&E services, bidding process, and contract administration, bidding to the completion phases, including daily operation and management of processes, enforcing design standards and details for campus rebuilding.

AS TERLAJE CAMPUS SITE CONDITION

This section is based on the master plan site design concept and information gathered during the discussion phase of the planning and development effort.



Aerial Image of existing campus post Typhoon Yutu

In developing this section, existing as well as proposed site infrastructure improvement plans were gathered from visual inspections, various government agencies and publicly available resources.

A. AS-TERLAJE CAMPUS BACKGROUND

The Northern Marianas College was established in 1981 to provide higher education and vocational training programs aimed towards improving the quality of life in the CNMI. The early stages of the NMC campus began in Fina Sisu, As Terlaje when the NMC Administration took over three existing buildings which formerly served as nursing schools. Over time, newer buildings were added to accommodate the growing demands of NMC. Unfortunately, these buildings aged poorly and required substantial renovation. In 2018, Typhoon Yutu demolished over 20 buildings and left the NMC with an estimated \$20 million in collateral damages.

In 2019, the U.S. Department of Education through the agency's Emergency Assistance to Institutions of Higher Education program awarded NMC \$21.9 million to aid in the recovery efforts. NMC has completed the demolition, removal and clearing of buildings that were severely

damaged and unsafe. NMC seeks to rebuild the campus with the intent to design, construct and incorporate safe, and resilient buildings and facilities meeting the latest codes while adopting initiatives that promote sustainability.

B. LOCATION AND VULNERABILITY TO HAZARDS

The NMC campus is situated in a prominent location in terms of accessibility to main roads and points of interest, visibility from the main highway, coastal views, and proximity to business and commercial establishments. The campus is situated on the northern boundary of Fina Sisú, As Terlaje, comprising of three tracts occupying a total of 6.63 hectares (66,385 square meters). The highest elevation is approximately 173.88 feet above the coastal zone sea level.

The current site condition is illustrated in the as built and topographic survey map prepared by Meridian Land Surveying and is referenced in this plan.

Tract No.	Area
TR. 21699-1	28,923 sq. ft.
TR. 21699-3	17,803 sq. ft.
TR. 21699-R3	683,850 sq. ft.

Due to its elevated location and distance to coastal zones, vulnerability to tsunami is low. According to the FEMA Flood Map, flood hazard is considered low in this area.

C. TOPOGRAPHY

The west and south portions of the campus occupy remaining buildings that form the existing campus. The north and center of the east portions are open spaces suitable for future development of buildings, recreational areas, parking, and outdoor spaces.

The campus is slightly to moderately sloping towards the west and east along a north to south section then rises in a steep incline to a difference in elevation of about 17 feet at the northern most area of the campus. The lowest area is located along the south-east corner of the property.

The site design concept shows the Student Service Center located on the highest area of the campus. This location takes advantage of the viewpoint overlooking the campus, main roads, and ocean.

The planned location of the Services Center sits on the hill overlooking the western coastline and the intersection at Chalan Pale Arnold and Chalan Tun Antonio Apa. From this vantage point, the Student Services Center offers monumental features and spaces designed in line with its goals and objectives that will capture the attention and interest of the community leaving a lasting impression.

In line with Goals 6, 7, 8, 9, and 15, NMC has an opportunity to create a unique, inviting, and creative campus experience.



Campus As-Built and Topographic Survey

D. CAMPUS AND SURROUNDING LAND USE

Land use planning in Saipan is regulated under the Saipan Zoning Law of 2013 and the Zoning Code.

The NMC campus is situated in a Village Commercial (VC) zoning district and is surrounded by Rural (R), Village Residential (VR), Village Commercial (VC), and Mixed Commercial (MC) zoning districts.

Campus housing in the form of a dormitory will be considered in the long-range planning. However, under the current law, Institutional Residence is not permitted, barring the construction of dormitories within the campus property.

To comply with the law, NMC must request the CNMI Legislature to propose amendment to the Saipan Zoning Law of 2013 that will allow the construction of a dormitory on campus for approval by the Senate and passage by the Governor.

Permitted land use of the campus and surrounding areas is linked in this plan to provide an understanding of constraints and to create the framework for lawmakers, policy decisions, and government agencies to create an integrated campus community along the main thoroughfare and local roads around the campus.

The NMC campus has undergone demolition work within the past year while remaining buildings have been maintained and repaired to continue serving the needs of NMC to the greatest extent possible. These buildings will serve the operational needs of NMC temporarily while the rebuilding program is underway.

When campuses and towns are planned well for the mutual benefit of communities and colleges, a new and thriving economy develops. In line with Goal 7, planning and development of surrounding neighborhoods is encouraged and will be considered in the plan to promote NMC as the hub for education, community and culture, safety, and economic growth. This is an opportunity for NMC to provide a cohesive and well-planned community environment for students, staff, and visitors.

The surrounding districts provide a diverse variety of opportunities for off-campus housing, businesses, food and entertainment, financial institution and other commercial establishments suitable for the development and growth of a premiere college campus town and atmosphere.

Integrated planning of surrounding areas and the process required to achieve desired goals and outcomes is vital to the success of NMC.

E. SOILS AND GEOLOGY

Information from the Soil Survey of the Islands of Aguijan, Rota, Saipan, and Tinian, Commonwealth of the Northern Mariana Islands, published by the U.S. Department of Agriculture Soil Conservation Service in July 1989 was used as a basis to identify the classification of soils that may be present within the NMC Campus masterplan area.

There are three main soils that may be present in the NMC campus property which are listed below according to the legend represented in the figure.



17 - Chinen-Urban Land Complex with 0 to 5 percent slope

29 - Kagman-Urban Land Complex with 0 to 5 percent slope

26 - Kagman Clay with 0 to 5 percent slope

Prior to the design and construction of proposed buildings, paved roadways, parking lots, walkways, underground infiltration chambers for stormwater management, recreational and landscape features, and underground utilities such as water, sewer and communication lines, testing and investigation of the soil must be performed by a registered professional engineer to determine the soil properties for design purpose.

Soil properties affect the design and cost of construction of building foundations, stormwater management systems, and roadways which is performed and evaluated early in the preliminary design phase. Soils and their underlying geology influence the type of foundation and subgrade required for buildings and roadways. Soils also influence the natural recharge characteristics associated with land in its natural state and the underlying geology provides the capability for the infiltration of stormwater at shallow depths beneath the land's surface.

The NMC campus as with most of the areas on Saipan is underlain by shallow limestone formation which provides a good natural subgrade for shallow foundation of buildings up to 3 stories high and a great opportunity to recharge and restore large volumes of stormwater back into the groundwater lens.

Providing on-site pre-treatment and recharge in the form of sedimentation basins and infiltration chambers respectively mitigates groundwater contamination and withdrawal practices used for

public water supply and minimize runoff from entering streams that potentially leads to the lagoons.

Upon completion of the soil investigation and during the preliminary design stage, designers should be prepared to present options to the NMC Leadership regarding the basis of the design to help facilitate discussion on cost and level of effort required to construct the proposed development prior to proceeding with the final design and construction documents for each phase of the masterplan.

The design objectives are to provide cost effective foundation design of buildings and roadways, and stormwater management design that promotes groundwater treatment and high recharge rates.

F. GROUNDWATER

The CNMI & Guam Stormwater Management Manual was published in 2006 where groundwater management zones (GMZs) have been designated based on the groundwater quality. For the island of Saipan, three types of GMZs have been designated as Class I, II, and III. Class I zones are deemed areas with the highest quality, most valuable, and most vulnerable groundwater resources; Class II zones are somewhat less valuable due to decreased lens thickness resulting in brackish water; and Class III zones are the coastal aquifers that are not potable.

The NMC campus is located above the Class II GMZ. Therefore, use of underground infiltration chambers have been incorporated into the masterplan to improve existing groundwater conditions and accomplish the following objectives: Increase the groundwater lens thickness; maximize use of land area for open outdoor spaces for functional purposes; prevent runoff to streams and low areas; and reduce environmental and health impacts as a result of improper management of stormwater runoff.

G. BIOLOGICAL AND BOTANICAL

There are no known biological issues to be addressed on this site. However, there are opportunities to develop and enhance the botanical characteristic of the site with herbaceous and native plants and trees to enhance the landscape in which promotes botanical habitat.

H. ARCHAEOLOGICAL

There are no known historical or archaeological issues to be addressed on this site. However, there are opportunities to develop a small area on the site describing the early development and use of the area, how it has evolved to the present and the future transformation once the masterplan is completed.

This area can be indoor or outdoor and funded by federal grants in collaboration with the Historic Preservation Office. The space can be designed in the form of a small, narrated walk-through museum with photograph displays and interpretive signs.

I. ENVIRONMENTAL IMPACT ASSESSMENT

An environmental impact assessment (EIA) is to be conducted early in the preliminary design stage to determine potential impacts and mitigation measures during and after construction of each phase of the masterplan.

J. EXISTING ROADWAY INFRASTRUCTURE

1. Public Roads

The NMC campus is bounded by Chalan Pale Arnold (Route 31) to the north, Chalan Tun Antonio Apa (Route 307) to the east and south, and Fina Sisu Lane to the west. During our research of existing public right-of-way with the Department of Public Lands and the Department of Public Works Right-of-Way Division, it was discovered that a portion of Fina Sisu Lane is still under private property ownership which currently prevents public access from Route 31 to Fina Sisu Lane.

Entrance to the campus is from NMC Road (east of the CUC As Terlaje water reservoir), Chalan Tun Antonio Apa Road, and Fina Sisu Lane to the south. Two major collector roads contributing to traffic through Chalan Tun Antonio Apa Road are Route 31 and Route 306 (Chalan Tun Joaquin Doi Road).



Right turn on Route 31 (East) to NMC Road (South)

● Access from Primary Roads:

1 - Chalan Pale Arnold Road (Route 31) – Entrance to the campus from this point is located just above the CUC water reservoir going up As Terlaje Hill leading onto NMC Road.

Existing Condition of Route 31:

- Major arterial road classification
- Paved with drainage swales on both sides
- 15-20% Grade
- 2 Lane eastbound
- 2 Lane westbound
- Impaired Lane markings
- No traffic warning signs
- 45 MPH speed limit
- Right turn from Route 31 eastbound to NMC Road is common
- Left turn from Route 31 westbound to NMC Road is common and poses safety hazards

Existing Condition of NMC Road:

- Paved road at the intersection
- Two-way traffic
- Local village road
- Low volume traffic during non-peak hours
- Mostly used by NMC students, faculty, and staff during campus hours
- Portion of existing road at the entrance is located on NMC's property
- The north end portion of Fina Sisu Lane is privately owned blocking public access from Route 31
- Exiting NMC Road is common and is a safety concern due to the steep grade, limited sight distance, and traffic volume

Options:

- Restrict west bound left turn (east bound right turn only)
- Closure of NMC Road from Route 31

Proposed Improvement Plan:

- Increase capacity along Chalan Pale Arnold Road and Improve Traffic Signal Intersection
- Redesign roadway adding right turn pocket lane from Route 31 to Chalan Tun Antonio Apa
- Widening of Chalan Tun Antonio Apa
- Redesign Chalan Tun Antonio Apa to provide right turn lane to Route 31
- Upgrade traffic signal intersection

● Access from Primary Roads:

2 - Chalan Pale Arnold Road (Route 31) – Access to the campus from this point is located on the crest of Route 31 at the intersection of Chalan Tun Antonio Apa heading south on Chalan Tun Antonio Apa. The NMC campus is bounded by Chalan Tun Antonio Apa Road to the east and Fina Sisu Lane to the west.

Existing Condition of Route 31 at Intersection:

- 1 Eastbound only lane
- 1 Eastbound and right turn to Chalan Tun Antonio Apa lane
- 2 Westbound only lanes
- 1 Left turn only westbound lane
- Limited illumination at night
- Crosswalk marking
- Grass shoulder
- Traffic signal wooden poles with elevated concrete base

Existing Condition of Chalan Tun Antonio Apa:

- 1 Southbound only lane from Route 31 eastbound
- 1 Left turn only pocket lane to Route 31 westbound
- 1 Right turn only lane to Route 31 eastbound

● Access from Primary Roads:

3 – Chalan Tun Joaquin Doi Road (Route 306) - Route 306 also contributes to the traffic flow from the south



Intersection at Route 31 and Chalan Tun Antonio Apa



Traffic poles along Route 31 and Chalan Tun Antonio Apa Intersection

2. Public Transportation

The Commonwealth Office of Transit Authority (COTA) has developed a program that provides public transportation services to individuals throughout the island of Saipan. In 2013, COTA conducted the Saipan Fixed Flex-route and Paratransit System Feasibility Study. Among the various demographics on Saipan, college students fall under one of the priority transit markets. As a starting point, the study identified one route from Garapn to south end of Saipan along Beach and Middle Road with connections to NMC and Joeten Superstore (formerly Costco). COTA has already began implementing elements of the Fixed Flex-route and Paratransit System including the installation of bus stations with signage and concrete pads along designated routes. The study also mentions that COTA has plans to work with NMC to investigate the opportunity to implement a Universal Pass Program for students, faculty, and staff.

By 2022, it is expected that COTA will be constructing bus transfer stations at NMC and other priority areas. Below is caption of the list of approved appropriations for FY 2020-2023.

To ensure students have access to public transportation, four (4) bus stations have been identified around the campus along the public right of way in the facility master plan following the Transit Friendly Land Use and Development Guidelines.

3. Pedestrian and bicycle Traffic

Pedestrian and bicycle transportation is highly uncommon on the island of Saipan due to inadequate and unsafe roadway facilities and conditions. Primary access to and from the campus is by vehicular transportation requiring ample parking facilities.

The NMC campus serves a diverse group of individuals with unique needs. To ensure student satisfaction, population and academic achievement is achieved, access to the campus with bicycle and pedestrian friendly roadway design is a critical element of public infrastructure that is incorporated and emphasized in the facility masterplan.

4. Water

Water service to the campus is currently provided by the Commonwealth Utilities Corporation directly feeding existing buildings or to several water tanks located throughout the campus with the exception of the Cafeteria. The water quality from the Commonwealth Utilities Corporation does not currently meet U.S. Environmental Protection Agency (EPA) health standards required for drinking and therefore, water for the Cafeteria is currently being delivered by a private drinking water company to a water tank connected to the Cafeteria for kitchen use.

The two main points of connection are from a six-inch waterline located along Chalan Tun Antonio Apa Road and a main line along Route 31. From the south, a six (6) inch diameter waterline serves the southern portion of the existing facilities. From Route 31, the main water line

serves the NMC CREES and former Galaxy building. The size of the line from Route 31 is to be confirmed during the preliminary design phase.

Water service demand and sizing of the water system will be calculated as part of the overall building design based on the demand load of each building for restrooms, lavatories, kitchens, fire suppression and other uses as required by the International Building Code and other statutory requirements.

Further investigation will be done to confirm the location of an existing deep well in the area, determine the condition, legal ownership, and future implementation into the campus water infrastructure system.

However, should the building design water demand calculations show the existing water lines capacity are adequate to support the load demand, activating the water well may not be required.

Should NMC decide to activate the water well in the future, maintenance and operation cost are to be factored into the overall budget. Cost to operate and maintain a public water supply system involves reporting, inspections, sampling, testing, and permit renewals, which can be performed by an NMC Facility staff who is a trained and certified level I water quality operator or may be sourced out to a third-party certified company for compliance with statutory requirements.

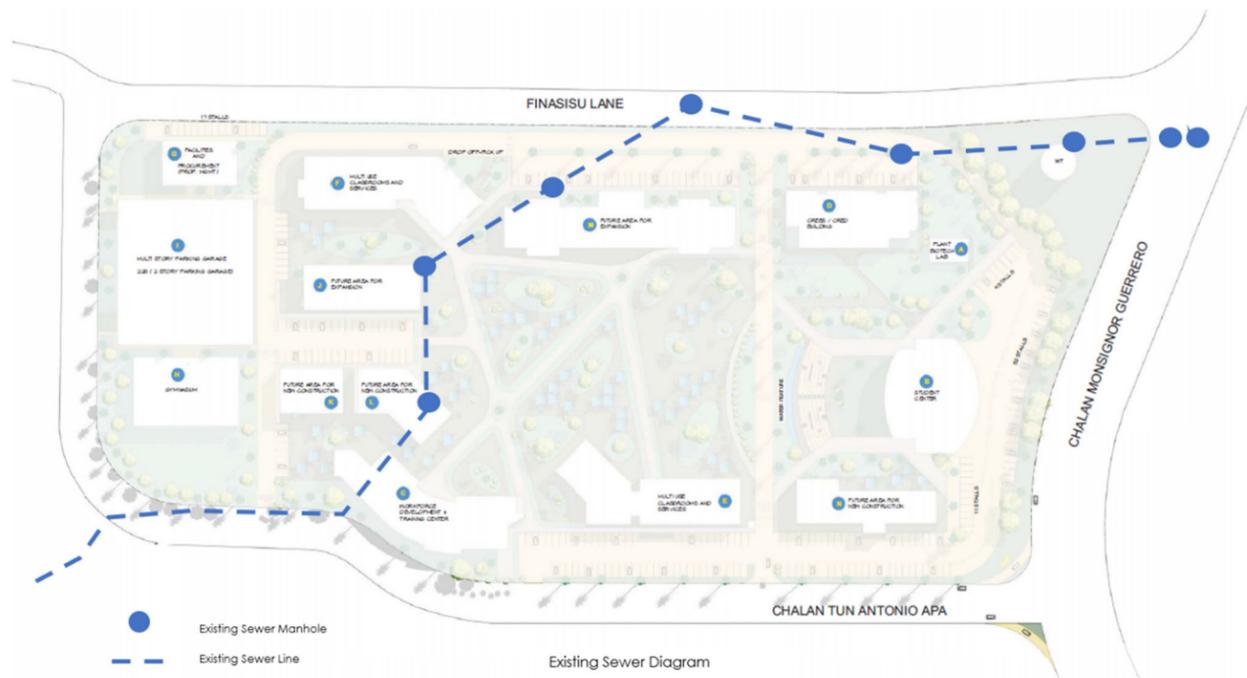
5. Sewer

The campus is currently connected to the Commonwealth Utilities Corporation sewer line through a series of gravity flow pipes and manholes leading to the main line along Chalan Pale Arnold Road towards the lift station at the Chalan Kiya intersection. The system is functioning reasonably satisfactory, however, will require relocation of underground pipes and manholes where future buildings will be located.

6. Stormwater Management and Drainage

Most of the site is composed of natural permeable areas with stormwater runoff generated primarily by impervious parking lots and roof drains. A visual inspection of the campus was conducted to identify existing storm water drainage system of the campus supported by the topographic and as-built survey map. On the north side the system consists of mostly open swales directing stormwater from parking lots and roof drains into the existing drainage system along Fina Sisu Road.

Stormwater runoff from the south and east parking lots drains into an existing detention basin located at the southeast corner of the campus through a series of catch basins, storm drain inlets, trench drains, and swales.



A culvert below the road next to Building V directs stormwater flow from the paved parking lots into a natural swale and discharges into a basin at the lowest point of the campus on the south-east corner.

K. PLANNING AND DESIGN GOALS AND OBJECTIVES

The following outlines how the goals and objectives of NMC will be achieved in terms of infrastructure.

GOAL 01 PROVIDE A QUALITY EDUCATION WITH APROPRIATE FACILITIES THAT ACCOMMODATE A GROWING CURRICULUM

- Include public transportation bus stations and circulation into the plan.

- Located on campus peripheral.
- Built in compliance with ADA design standards.
- Build robust IT network infrastructure.
- Power and back-up generator facilities

GOAL 02 BUILD RESILIENCE INTO THE NEW CAMPUS INFRASTRUCTURE DESIGN

- Provide designated service entrance locations for primary power from CUC to the campus.
- Design for underground power to buildings and outdoor facilities
- Design for back-up generator for each building or as required by funding source
- Design for rainwater collection systems to reduce dependence on CUC water.
- Use of rainwater for landscape irrigation and maintenance.
- Use rainwater harvesting to support fire suppression requirements.
- Use underground stormwater infiltration chambers to satisfy and promote groundwater recharge requirement.
- Use underground stormwater storage chambers to supplement fire suppression demand.
- Integrate solar power outdoor lighting throughout open spaces and parking zones.
- Integrate motion sensor activated solar lighting around corners and alleyways.

GOAL 03 INTEGRATE INSTRUCTION, RESEARCH, RECREATION & COMMUNITY OUTREACH

- Integrate recycling programs and policies throughout campus starting with simple operation policies to controlled recycling disposal sites on campus.
 - Minimize printing of course information, notifications, grades, tuition by use of campus developed applications for students, faculty and staff.
 - Implement recycling bins at designated waste stations starting with plastic and cardboards.
- Encourage vendor's use of mobile payment apps to reduce electricity and paper waste.
- Integrate vibrant outdoor spaces with native plant flora.
- Integrate rain gardens to create visually interesting pathways and landscape features.
- Create stormwater bio-retention pond with water feature.
- Incorporate mechanical garden art using storm water, sunlight, wind energy.
- Create native botanical gardens featuring medicinal/decorative plants with interpretive signs.
- Create garden spaces promoting migratory butterfly and bird attractions.
- Designate carpool parking lots

GOAL 05 PROGRAM THE CAMPUS FOR TECHNOLOGICAL ADVANCEMENT

- IT infrastructure and communications with fiber optics
- Data storage and control center
- Cyber security systems
- Integrate utility monitoring system – HVAC controls, lighting controls and sensors, water and power consumption.
- Integrate low water usage faucets and fixtures.

L. IMPLEMENTATION PLAN

1. Public Roads and Transportation

Provide safe and reliable access to the campus for students, faculty, and visitors.

A list of projects to be obligated under the U.S. Department of Transportation annual appropriation to the CNMI for fiscal years 2020-2023 is set forth by the Department of Public Works, Technical Service Division Highway Section in the Transportation Improvement Plan (TIP) dated July 8, 2020, and is approved by the Federal Highway Administration (FHWA) for implementation.

According to the 2020-2023 Transportation Improvement Plan (TIP), design of bus stations at the Northern Marianas College is slated to begin in 2021 with construction anticipated by 2022.

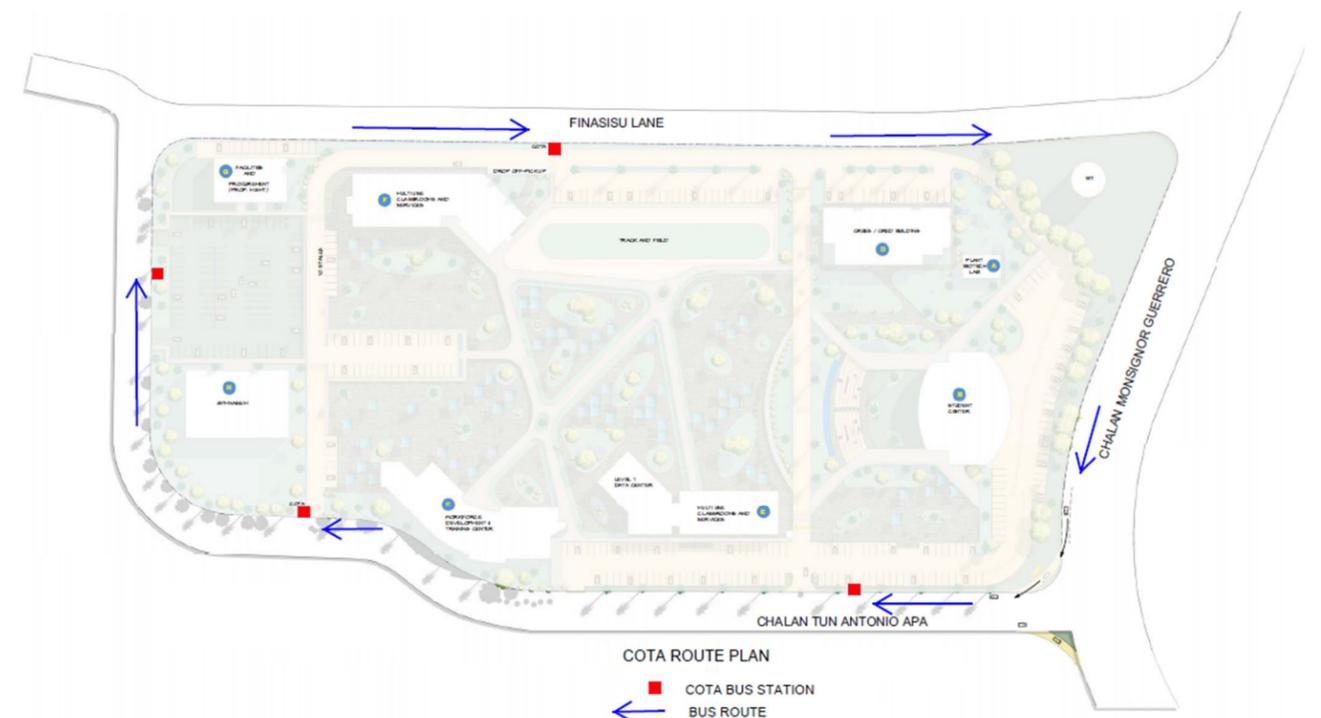
- Four (4) potential locations for public bus pick up and drop off areas are identified and is illustrated in the COTA Route Plan diagram. **[Locations are subject to change on the final draft].**
- ❖ Site selection were based on the following criteria:
 - ✓ COTA stations are placed along the public right-of-way to promote access by external users, minimize vehicular traffic and pedestrian hazards within the campus facility, and eliminate costly design requirements.
 - ✓ COTA stations are placed in areas where accessibility constraints are minimal, can be easily mitigated, or not an issue.
 - ✓ Design of sidewalks, curbs and roadway slopes are to be in full compliance with the Department of Transportation bus stop design standards and guidelines.
 - ✓ COTA bus stations are to be strategically located around the external perimeter of the campus where the greatest demand for public transportation is anticipated. Examples are:
 - Main Administrative Building leading to the Student Services Building
 - Library and Gymnasiums
 - Large Classrooms and Mixed-Use Buildings Serving Other Uses
 - ✓ Based on an average walking pace of 3 ft. per second, it will take an average of 2.22 minutes to walk to a designated COTA station 400 feet away and about 3.33 minutes to a bus station that is 600 feet away.
- Improve traffic movement and upgrading of signalization at Route 31 and Chalan Tun Antonio Apa Intersection to address future demand and safety hazards.
- Relocate existing fire hydrant, electrical pedestal and cabinet, and signal poles.

Widen intersection and design for right turn lane only from Route 31 to Chalan Tun Antonio Apa Road southbound.

Commonwealth Office of Transit Authority (COTA) Transportation Improvement Plan (TIP) FY2020-2023

Projects Funded by: U.S. Department of Transportation

DISTRICT	FIXED ROUTE NO.	PROJECT DESCRIPTION	TYPE OF WORK	FY2020 FEDERAL	FY2021 FEDERAL	FY2022 FEDERAL	FY2023 FEDERAL
SAIPAN	ALL	Purchase of Twelve (12) Medium Duty ADA Compliant Mobility Equipped Transit Bus for the Fixed Route		\$2,162,292.00			
SAIPAN	ALL	Supply, Installation of Thirty Seven (37) Fixed Route Bus Stop Shelters	Construction		\$1,009,500.00		
SAIPAN	4	Supply, Installation of Bus Stop Signboard and Construction of COTA Transit (Bus) Pads		\$30,000.00			
SAIPAN	ALL	A/E Design for Fixed Route Bus Stops	PE Design	\$300,000.00			
			Construction				
			CM				
SAIPAN		Supply of Maintenance Equipment & Tools for the COTA Maintenance Facility		\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
SAIPAN	ALL	Construction of Bus Transfer Stations at the Northern Marianas College, Paseo De Marianas & Kagman	PE Design		\$150,000.00		
			Construction			\$680,000.00	
			CM			\$70,000.00	
TOTAL OBLIGATION				\$2,592,292.00	\$1,259,500.00	\$850,000.00	\$100,000.00



- Widen intersection and design for right turn lane only from Chalan Tun Antonio Apa Road to Route 31 eastbound.
- Address existing safety hazard from Route 31 to NMC campus located just above the CUC As Terlaje Water Reservoir.
- Address future access from Route 31 to Fina Sisu Lane.
- Eliminate flooding from roadway surface runoff to NMC property.
- Incorporate pilot project – Solar or battery powered individual transportation devices (i.e. scooters, bicycles, hoverboards) for campus rental and use that can be charged through a mobile device application.



2. Internal Roads and Parking Areas

Internal Roads:

- Internal roads with limited access and use for students, faculty, staff, maintenance and commercial deliveries.
- Two lane roads with accessible sidewalk / pathway along both directions for pedestrian and bicycle use.
- Restrict vehicular parking along internal roads.
- Provide maintenance / service roads with parking at designated locations near buildings and facilities where necessary.

Parking Areas:

Considerations:

- Limited site capacity
- Impermeable Surfaces increasing stormwater runoff requiring more land area for drainage.
- Runoff increases contaminants and pollutants to streams and lagoon.
- Increases requirement for stormwater retention on site.

Proposed Improvements and Guidelines:

- Minimize parking requirements by implementing alternative transportation.
- Off Site Parking with Shuttle Service
- Designate Public Transportation (COTA) Pick-up and Drop-off Points
- Provide parking per Zoning requirements.
- Design buildings for rooftop parking where feasible.
- Provide parking zones with accessible routes to buildings and facilities.
- Provide access to charging stations for solar powered motor devices (scooters, hoverboards, etc.)
- Provide rental options for solar powered motorized devices using mobile app device.



Improve Traffic Movement at Intersection

3. Water

Primary source for water service to the campus remains to be from CUC. Alternative source of water supply from an existing or new deep well will be evaluated by future design consultants through a feasibility study. This facility master plan requires a water system connected to the public water system along Chalan Tun Antonio Apa at two locations.

Phase 1 and 2 of the campus water system will be connected to the existing 8-inch diameter waterline along Chalan Tun Antonio Apa Road on the east and distributed to buildings A, B, C, D, and E.

Phases 3 and 4 will be connected to the existing 6 inches diameter water line along Chalan Antonio Apa Road on the south side and distributed to buildings F, G, H, I, J, K, and L.

All buildings are to be designed with a back-up water tank with a disinfection and filtration system.

A bypass between the two water supply lines from each CUC main line will be provided for backup in case one of the CUC main line is interrupted. The bypass line will be connected to the water tank below the outdoor seating area for emergency back-up water supply.

4. Sewer

Further investigation will be performed to determine the sizes of the existing underground sewer system.

Two sewer manholes and two segments of underground sewer pipes will require relocation to be coordinated with the overall redevelopment phase as shown. All future buildings will be connected to the sewer network system as illustrated in the Proposed Sewer Diagram.

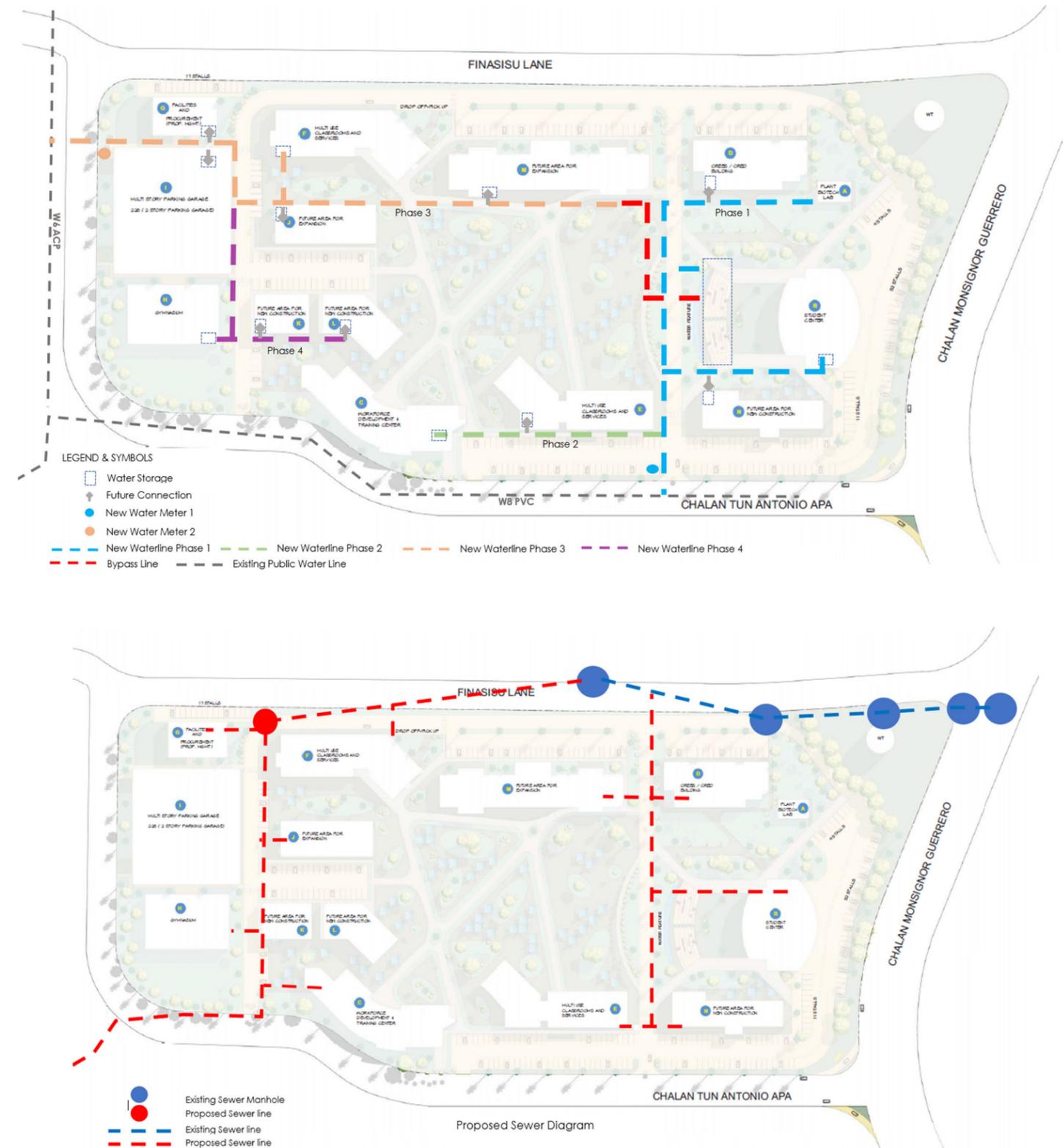
5. Stormwater Management and Drainage

STORM WATER AND DRAINAGE SYSTEMS

Stormwater runoff from paved Stormwater runoff from open areas, parking lot surfaces and roof top drains are to be treated in accordance with the CNMI and Guam Stormwater Manual. Best practices during construction and final development are to be incorporated into the site design.

Drainage is to be considered along low-lying areas around the campus. Factors to be considered include stormwater runoff from Chalan Tun Antonio Apa road and contributing areas. A watershed analysis may be conducted in collaboration with the

Bureau of Environmental and Coastal Quality to further investigate potential impacts as part of future design considerations and off-site watershed planning.



Underground Cultec storm water detention/infiltration chambers are recommended for stormwater treatment and control below impermeable surfaces such as paved parking zones.

Bio-retention ponds throughout the site will be implemented and designed based a combination of topographic conditions.

Rainwater harvesting and storage below ground using the Cultec system is to be evaluated and sized based on the actual computed volume of runoff to be treated and infiltrated.

Other considerations:

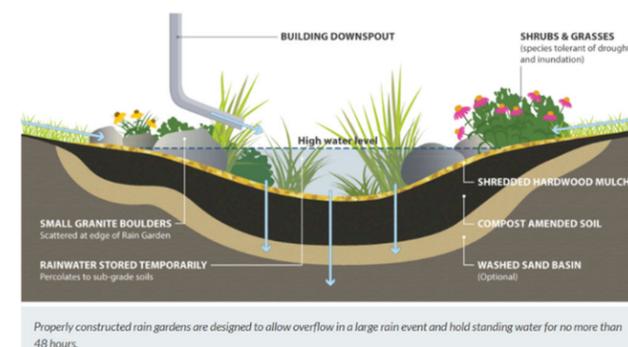
- Site grading and drainage design
- Temporary Earthmoving and Erosion Control
- Stormwater Management Design
- Retaining Walls
- Provision for accessible routes from the proposed Student Services Building to lower levels will be designed to accommodate ADA compliant walkways.
- Reduce stormwater runoff from impermeable surfaces.
- Incorporate rainwater harvesting.



Typical CULTEC Stormwater System Components

System Benefits

- Maximum use of land area
- Store larger volumes in a lower profile than comparably sized pipe
- Ability to recharge water on-site
- Single or multi-level systems
- Less heavy equipment required
- The units nest on pallets for convenient shipping and stockpiling of material
- Allows for greater infiltration into the ground
- Permits further development
- Reduces insurance liabilities and potential breeding grounds for infectious mosquitoes associated with open ponds
- Free design assistance available



The rain garden at the NMI Museum of History and Culture in Garapan. Rain gardens are "depressions" or "dips" that slow down water and help it drain and sink into the soil, addressing issues with erosion and potential flooding, and again, polluted waters that drains to our oceans, harming marine life. (IJA MAURIN)

M. PROPOSED TELECOMMUNICATIONS SCOPE OF WORK

The proposed telecommunications (telecom) scope of work for the Northern Marianas College (NMC) Masterplan consists of two main categories, outside plant (OSP) infrastructure and inside plant (ISP) infrastructure. Outside plant is generally defined as the infrastructure installed external to buildings that is typically routed into the building's telecom entrance facility. OSP typically includes telecom cabling (copper, fiber, etc.) and supporting pathways and structures (conduits, maintenance holes, etc.). Figure 1 below provides an overview of the proposed new OSP system for NMC, with the different lines and colors representing the different phases of the system.

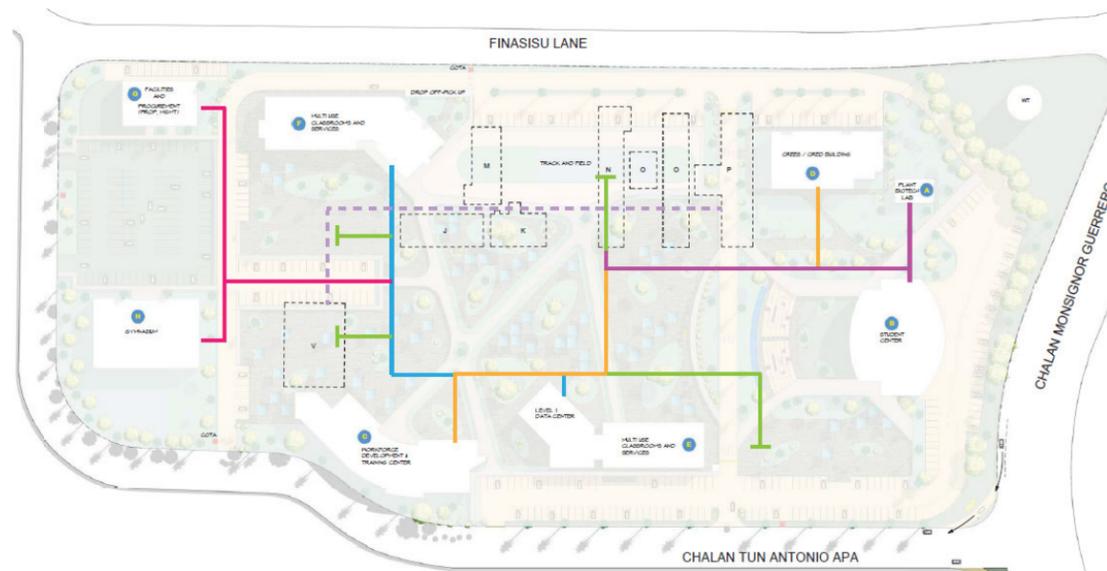


Figure 1: Proposed NMC Outside Plant Telecom System

Inside plant is generally defined as the infrastructure installed internal to buildings such as telecom cabling (ex: copper cabling, fiber cabling), pathways (ex: conduits, cable tray system), equipment support frames (racks and cabinets), and outlets (voice, data, etc.). Figure 2 below

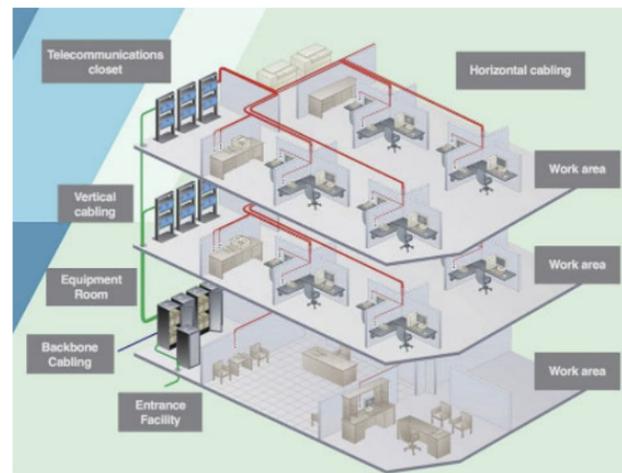


Figure 2: Typical Inside Plant Infrastructure

N. CRITERIA AND STANDARD

Determining the telecommunications criteria and standards to apply plays a major role in establishing the NMC masterplan. Criteria and standards provide guidelines and recommendations that help ensure quality design, construction, testing, and implementation. In the telecommunications industry, the organization most associated with development of telecom standards is the Telecommunications Industry Association (TIA). Subject to coordination, review, and concurrence from NMC's telecom subject matter experts, the following criteria and standards are proposed for the NMC Master Plan.



- a. TIA Standards, to include but not limited to the following:
 - TIA-568.0-E Generic Telecommunications Cabling for Customer Premises
 - TIA-568.1-E Commercial Building Telecommunication Infrastructure Standard
 - TIA-568.2-D Balanced Twisted Pair Telecommunication Cabling and Components Standards
 - TIA-568.3-D Optical Fiber Cabling and Components Standard
 - TIA-569-E Telecommunications Pathways and Spaces
 - TIA-606-C Administration Standard for the Telecommunications Infrastructure
 - TIA-607-D Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises
- b. BICSI Manuals
 - Telecommunications Distribution Methods Manual (TDMM)
 - Outside Plant Design Reference Manual (OSPDRM)
- c. Other Criteria
 - National Electrical Code

O. QUALIFICATIONS

In addition to determining criteria and standards to apply for the NMC Masterplan, it is highly recommended that NMC establish requirements for those who will be responsible for the design and/or construction of the telecom systems.



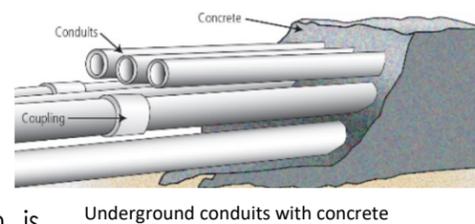
For the design phase of projects, it is recommended that projects be under the supervision of a Registered Communications Distribution Designer (RCDD). The RCDD credential is managed and administered by BICSI, a professional association supporting the information and communications technology industry. BICSI defines an RCDD as "an individual who has demonstrated knowledge in the design, integration, and implementation of telecommunications and data communications technology systems and related infrastructures. The RCDD is one of the highest design credentials in the information and communications technology industry, recognized worldwide". Many government, military, and commercial/private businesses have implemented the requirement for an RCDD. It is therefore recommended that all telecom designs under the NMC Masterplan be stamped and certified by a licensed Professional Electrical Engineer and an RCDD.

For the construction phase of projects, it is recommended that the telecommunications contractor be a firm which is regularly and professionally engaged in the business of the applications, installation, and testing of the specified telecommunications systems and equipment. The telecommunications contractor must demonstrate experience in providing successful telecommunications systems of similar scope and size. In addition, telecommunications supervisors and installers assigned to the installation of the system must be experienced and BICSI Registered Cabling Installers, Technician Level.

- c. Underground structures such as maintenance holes (manholes) and handholes. Where possible, handholes are recommended to allow easy access of the structures as they avoid the need for confined space entry.

P. PROPOSED NMC MASTERPLAN OUTSIDE PLANT INFRASTRUCTURE

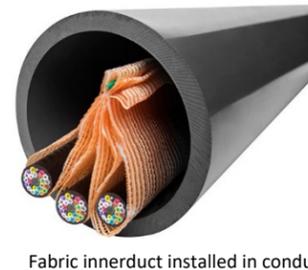
OSP telecom infrastructure will include an inter-building backbone system. Connectivity from the main telecommunications room at the Multi Use Classrooms and Services (Building E) to all new campus buildings will be provided through the installation of new underground conduits with cabling. An underground conduit system is recommended due to the following reasons:



- a. Reduces outages due to system not being susceptible to damage from high winds / typhoons.
- b. Improved physical security since lines are located underground and enclosures can be designed to be secured, when required.
- c. Looks better visually by maintaining the property's aesthetic appearance.

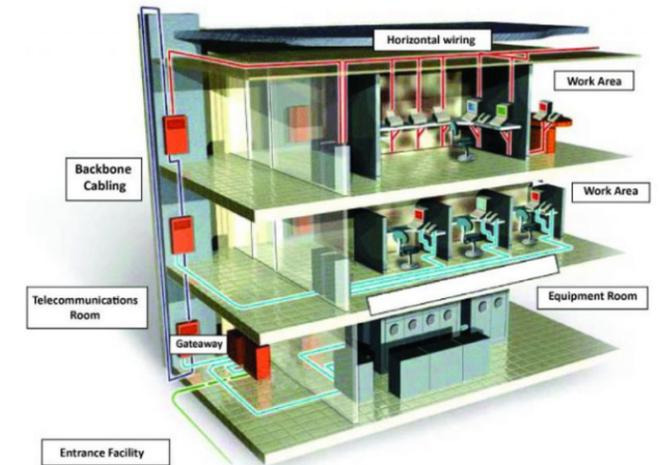
Based on preliminary discussions with NMC's telecom SMEs, cabling between the different buildings of the campus will consist of fiber optic cabling. In support of the fiber optic cabling, the proposed OSP infrastructure will consist of the following:

- a. Underground conduit system, concrete encased consisting of a minimum of 4-4" conduits. Four conduits are proposed to provide spare capacity in the system for future use/expansion. Concrete encasement is proposed for the protection of underground conduits (vehicular traffic, tree roots, construction activities, etc.).
- b. Fabric innerduct installed in at least two (2) of the four (4) conduits. Advantages of the fabric innerduct include the following:
 - Helps reduce the quantity of conduits by increasing the number of cables that can be installed within a conduit. A 4" conduit can fit up to 3 each 3-cell fabric innerducts, for a total of 9 cells or 9 sub-ducts for the installation of telecom cables.
 - Enables incremental implementation of cabling to match system requirements (cables do not need to be significantly oversized since the additional cables can be easily installed).



Q. PROPOSED NMC MASTERPLAN INSIDE PLANT INFRASTRUCTURE

ISP telecom infrastructure will consist of telecommunication racks/cabinets, backbone and horizontal cabling, pathways (conduit and cable tray system), service entrance facility, work area, telecommunications outlet assemblies, grounding, and hardware for splicing, terminating, and interconnecting cabling necessary to transport telephone and data.



Inside Plant Telecom System Provided Within a Building

Telecommunications Rooms (TR)

- a. Each building will have TR(s) sized as per TIA/BICSI requirements. TR designs must incorporate flexibility and scalability.
- b. TRs will utilize telecommunication cabinets rather than open racks. Cabinets are capable of being locked, in addition to requiring secured access to the TRs.
- c. For most buildings, TRs will have an overhead cable tray system for horizontal and backbone cabling. For large entrance facilities and/or equipment rooms, underfloor cable tray system utilized with access floor systems as well as overhead cable tray systems will be considered.
- d. The TR of each building will include fire retardant, plywood backboards to facilitate the mounting of equipment. At least two walls of a TR will be provided with telecom backboards.
- e. Each TR will be provided with a dedicated electrical panelboard.



Telecommunications Room

Telecommunications Cabling and Outlets

- a. Horizontal pathways will primarily consist of cable trays and conduits, which will be sized per TIA/BICSI standards. Minimum conduit size will be 1 inch.
- b. Each telecommunications outlet will homerun directly to the telecommunication room/space or cable tray system. Telecommunication jacks will be color-coded and labeled in accordance with TIA standards and User requirements. Telecommunication outlets will consist of 8-pin modular jacks terminated with Category 6 unshielded twisted pair (UTP) cables.
- c. Category 6 cables will homerun to the corresponding patch panel at the telecommunications room. All CAT6 cabling located in slab or on grade will be wet location listed in accordance with Code.

Telecommunications Grounding

Complete and proper grounding and bonding of telecommunications system is critical to the protection of personnel and equipment. It is also required to satisfy equipment warranty requirements and maintain system performance. Telecommunications grounding system will include Primary Bonding Busbars (PBB), Secondary Bonding Busbars (SBB), telecommunications equipment bonding conductor (TEBC), and other grounding/bonding requirements in accordance with TIA 607-D.



Grounding at Telecommunications Room

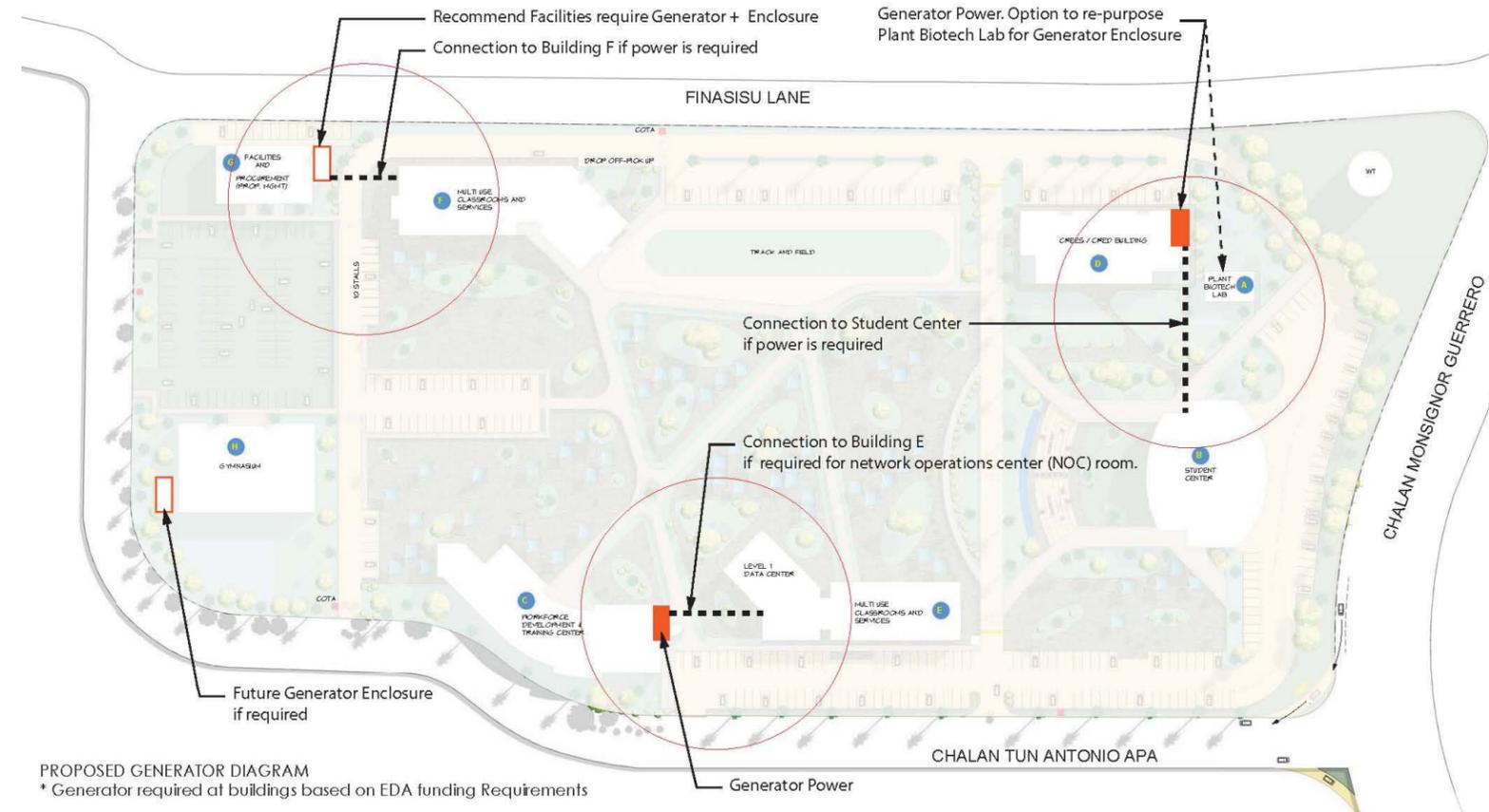
Miscellaneous Systems

Close coordination will be required with NMC's System Providers to ensure infrastructure for the systems indicated below meet the needs of the respective system equipment and devices.

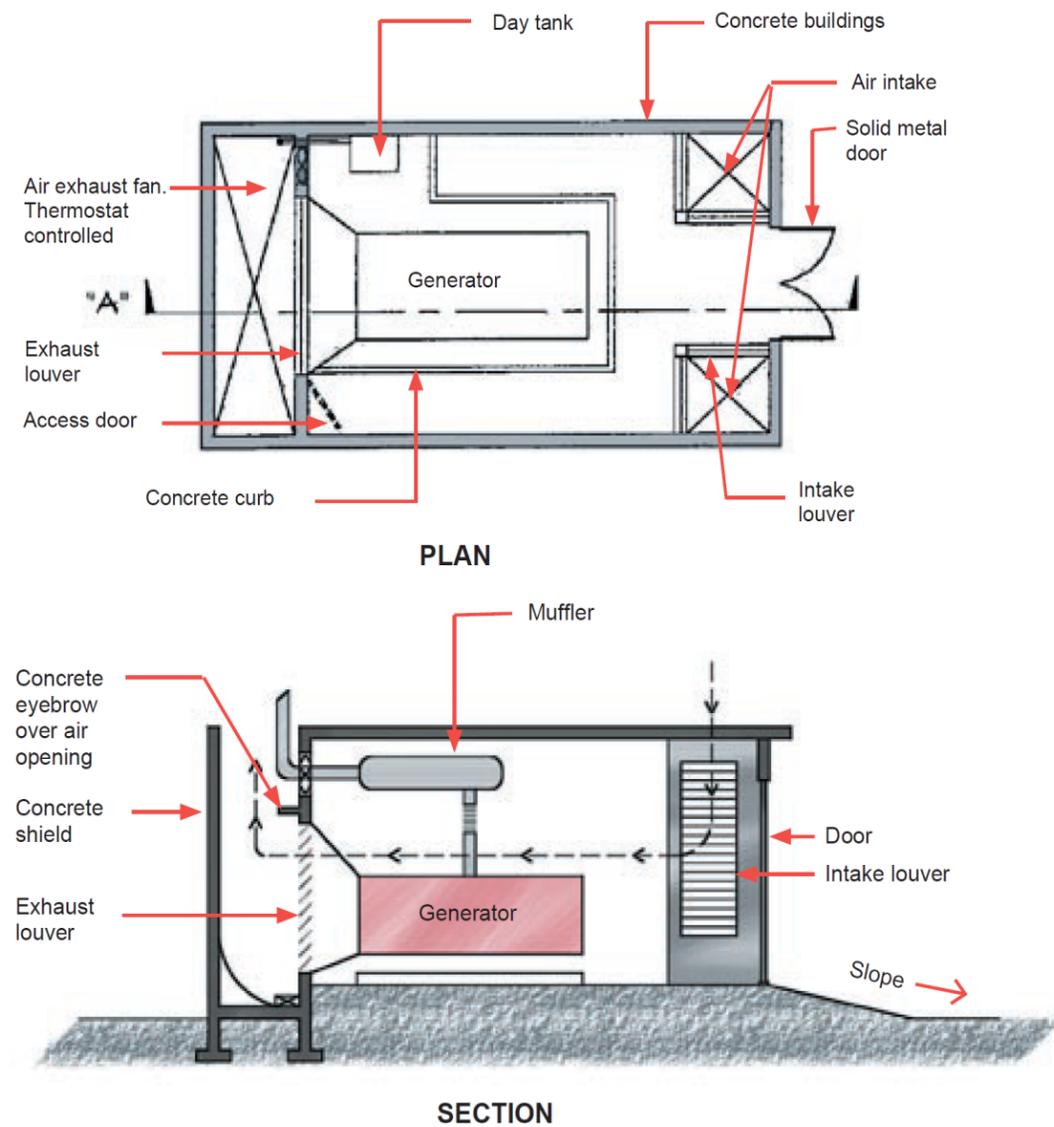
- a. Electronic Security Systems: ESS infrastructure (empty conduit, junction/pull boxes, pull strings, etc.) will be provided to perform security operations like surveillance, access control, alarm, and intrusion detection.
- b. Audio Visual (AV) Systems: AV infrastructure (empty conduit, junction/pull boxes, pull strings, etc.) will be provided for av speakers, microphones, and video teleconferencing.
- c. Public Address (PA) Systems: PA infrastructure (empty conduit, junction/pull boxes, pull strings, etc.) will be provided.

R. BACKUP POWER

Backup power will be provided for selected facilities in the campus using diesel generators as shown in the diagram below. It is recommended that generators be installed indoors within a generator room. Proposed design of generator room utilizes an airwell system (intake and exhaust). Below is a sketch of the recommended generator enclosure/room.



Recommended Generator Enclosure



S. PHOTOVOLTAIC SYSTEM

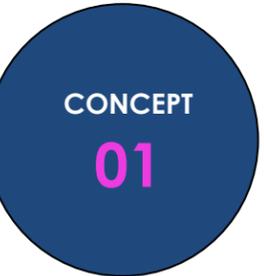
A photovoltaic (PV) system is proposed for the NMC campus using the following systems:

1. Roof mounted PV systems for a majority of the campus building rooftops. Size of the PV system will be dependent on the rooftop design (size, shading, direction, location, etc.). The goal of each system is to generate at least 20% of each building's power consumption from photovoltaics.
2. Solar powered lighting such as area light poles and wall mounted exterior lights. Entire assembly, with the exception of the solar panels themselves, will be designed to meet CNMI's high wind load requirement.

With the proposed airwell system, the generator including its ability to operate during and after a typhoon is protected. Louvers are not susceptible to damage from flying debris and water intrusion to the generator room is prevented. In summary, the proposed generator room is typhoon proof, allows the generator to operate during inclement weather conditions (typhoon), achieves good sound attenuation, and protects the generator system from wind driven rain.

For fueling system, consideration will be made to using base mounted fuel tank. If a larger tank is required due to back-up runtime requirements, an above ground fuel tank will be used. Where duration of runtime is critical, a minimum of 3 days of fuel capacity is recommended. Highly critical facilities such as the generator system may be provided with 7 days of fuel capacity.

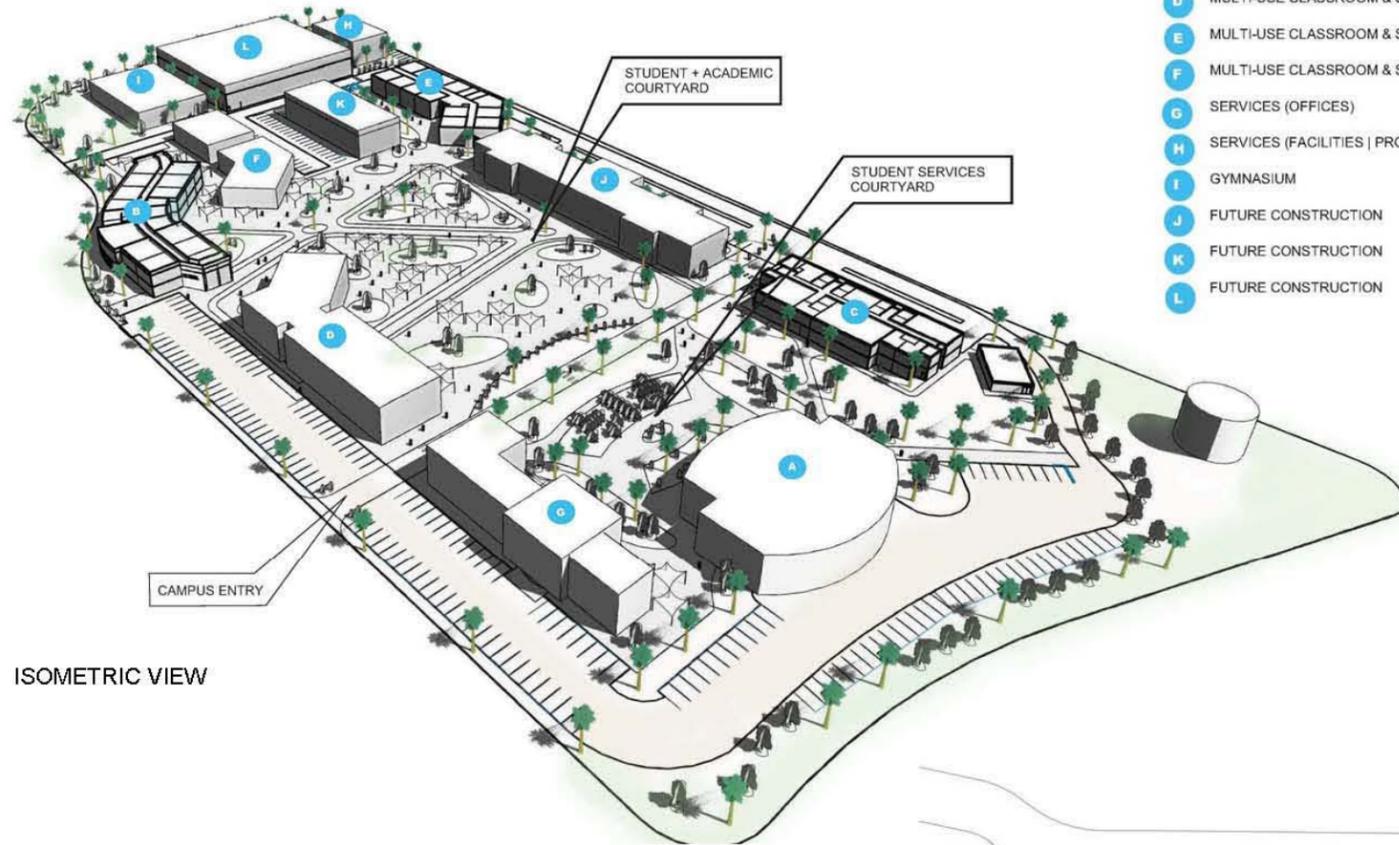
SITE DEVELOPMENT CONCEPT STUDIES



OVERVIEW

Site concept studies were developed following Task 2. Considerations involved adhering to site and zoning constraints, existing site conditions, building orientation, and circulation strategies. Strategic placement of buildings is based on funding sequence, phasing of building construction while allowing room for future expansion.

- A STUDENT CENTER
- B WORKFORCE DEVELOPMENT & TRAINING CENTER (WFDTG)
- C MULTI-USE CLASSROOM & SERVICES (CRED)
- D MULTI-USE CLASSROOM & SERVICES
- E MULTI-USE CLASSROOM & SERVICES
- F MULTI-USE CLASSROOM & SERVICES (SCHOOL OF EDUCATION)
- G SERVICES (OFFICES)
- H SERVICES (FACILITIES | PROPERTY MANAGEMENT)
- I GYMNASIUM
- J FUTURE CONSTRUCTION
- K FUTURE CONSTRUCTION
- L FUTURE CONSTRUCTION



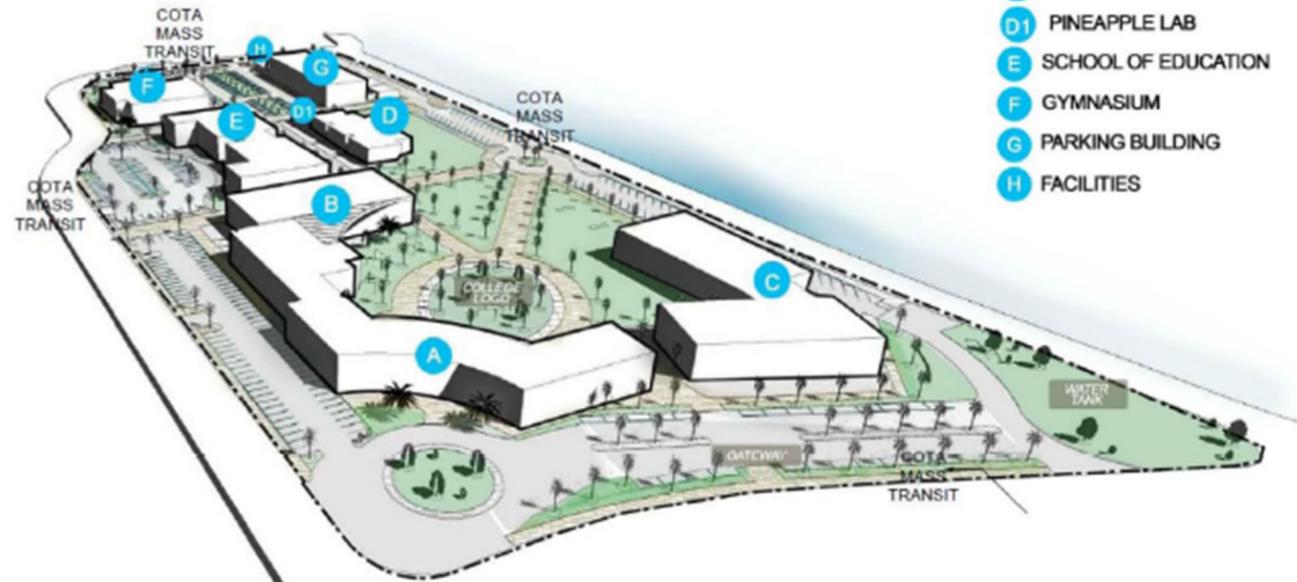
ISOMETRIC VIEW



SITE PLAN

CONCEPT
02

- A STUDENT CENTER
- B SCHOOL OF LIBERAL ARTS
- C WORKFORCE DEVELOPMENT CENTER
- D CRED
- D1 PINEAPPLE LAB
- E SCHOOL OF EDUCATION
- F GYMNASIUM
- G PARKING BUILDING
- H FACILITIES

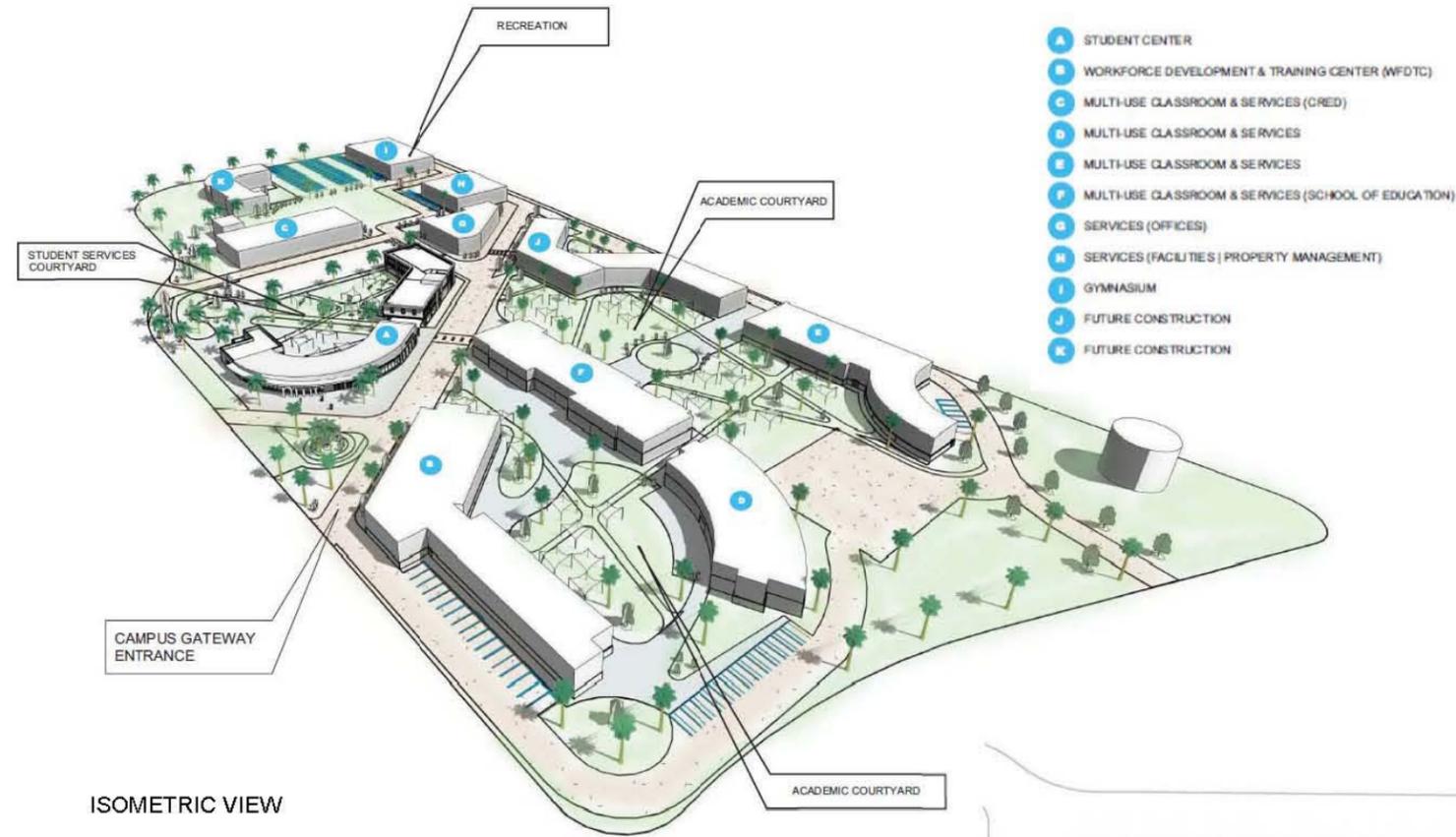


ISOMETRIC VIEW

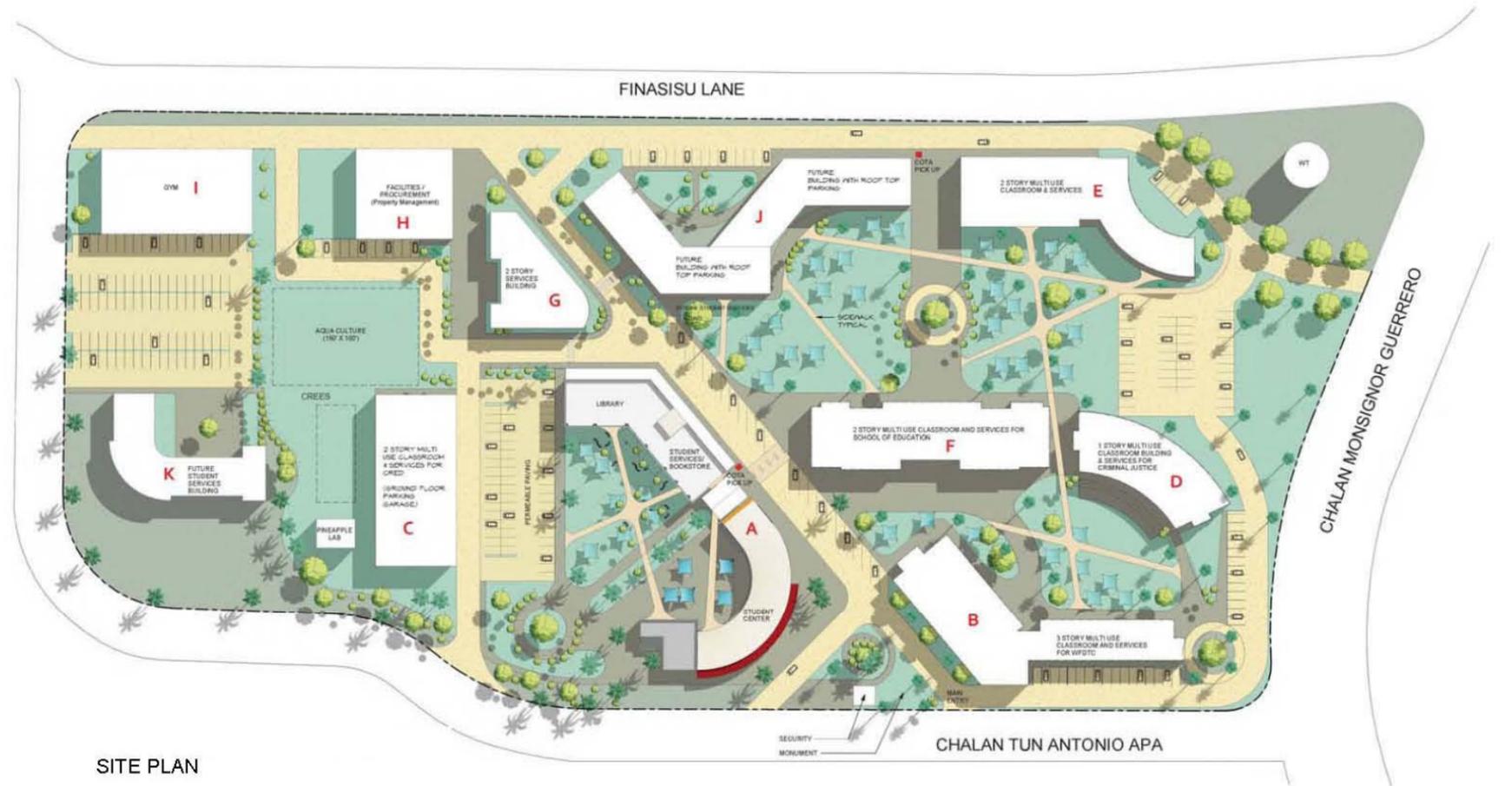


SITE PLAN

CONCEPT
03



- A STUDENT CENTER
- B WORKFORCE DEVELOPMENT & TRAINING CENTER (WFDTC)
- C MULTI-USE CLASSROOM & SERVICES (CRED)
- D MULTI-USE CLASSROOM & SERVICES
- E MULTI-USE CLASSROOM & SERVICES
- F MULTI-USE CLASSROOM & SERVICES (SCHOOL OF EDUCATION)
- G SERVICES (OFFICES)
- H SERVICES (FACILITIES | PROPERTY MANAGEMENT)
- I GYMNASIUM
- J FUTURE CONSTRUCTION
- K FUTURE CONSTRUCTION



SITE PLAN

CONCEPT
04

- A1 SMALL BUSINESS DEVELOPMENT CENTER
- A2 EXECUTIVE AND ADMIN OFFICES
- B SCHOOL OF NURSING
- C SCHOOL OF BUSINESS
- D PARKING BUILDING
- E STUDENT CENTER
- F SCHOOL OF EDUCATION
- G SCHOOL OF LIBERAL ARTS
- H CRED
- I GYMNASIUM
- J FACILITIES



ISOMETRIC VIEW



SITE PLAN

FACILITIES MASTERPLAN *DESIGN CONCEPT*

THE CAMPUS QUAD

CENTRAL HUB
CIRCULATION
OUTDOOR EVENT SPACE
GATHERINGS FOR STUDENTS
ALUMNI AND OTHER STAKEHOLDER GROUPS

INTEGRATED OUTDOOR ENVIRONMENT

SHADE
EXTERIOR CHARGING STATIONS
OUTDOOR SEATING
CAMPUS WAYFINDING SIGNAGES
OUTDOOR STUDY AREAS
TROPICAL FAUNA / MEDICINAL PLANTS
CULTURAL MONUMENTS / SIGNAGES
PEDESTRIAN WALKWAYS (PROTECTED)
LIGHTING

ENVIRONMENTAL DESIGN

AESTHETICALLY COMPLIMENT THE PHYSICAL ENVIRONMENT
SOCIALLY AND CULTURALLY APPROPRIATE
THE SITE FUNCTIONAL PLAN
BUILDING SIZES AND ARRANGEMENTS
ACCESS CIRCULATION AND PARKING
ACADEMIC EDUCATION SERVICES
FACULTY SERVICES DIVISION
ADMINISTRATION SERVICES
PROPERTY SERVICES

- Facilities Department Office
- Procurement Department Office
- Security office
- Maintenance shop
- NMC Secured Vehicle and equipment Parking
- Recreational Facilities and Services
- Campus Parking
- Future area for Campus Housing

INFRASTRUCTURE AND UTILITIES PLAN

The infrastructure program picks up from the prior analysis and the data, conditions and outcomes are updated based on current information and projections. Following this a more robust effort is made to synthesize this information into the Masterplan concepts.

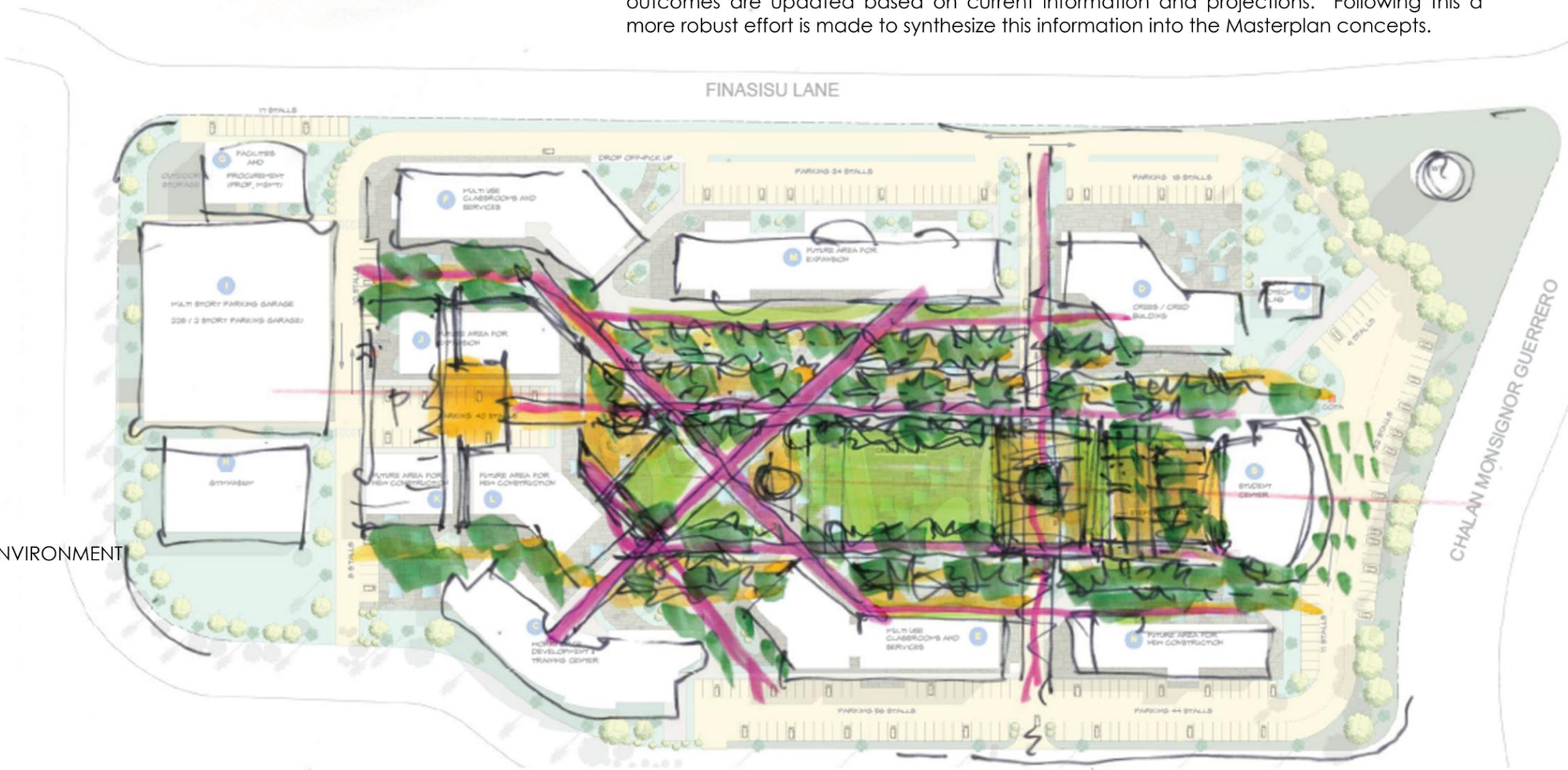




Image of Perforated Panels



Covered Walkway



Image of Sail canopy
Refer to page 53 for additional options



Sample Image of University of Wisconsin Campus gateway
Refer to page 63 for additional options for consideration

Entry Gateway Monument

Amphitheater Seating feature



Water Feature: Proa Sail

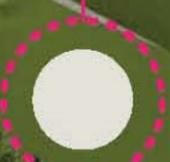


North West View

Option 01
Abstract shapes of fish migrating.
Optional to do flock of birds.
Colored uplights below

Water tank Improvements
Embracing the existing water tank
Refer to page 53 for additional options

Option 02 Painted Mural w/ lights



A

THE CAMPUS PLAN + VISION FACILITIES DEVELOPMENT

PHASE 01 OF THE FACILITIES MASTER PLAN

INITIAL CONSTRUCTION



■ COTA BUS STOP LOCATION
 Subject to change as necessary

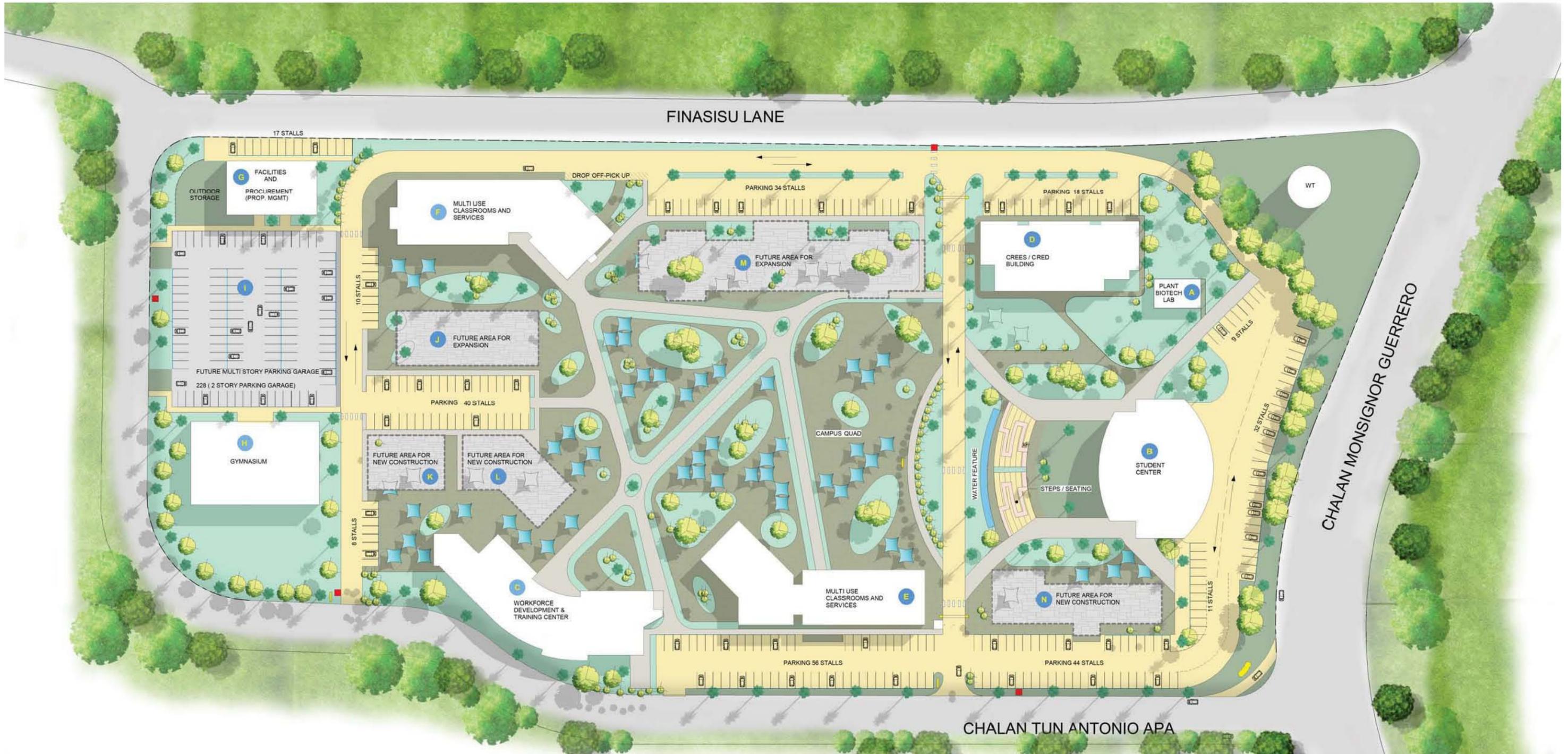


THE CAMPUS PLAN + VISION

FACILITIES DEVELOPMENT

PHASE 02 OF THE FACILITIES MASTER PLAN

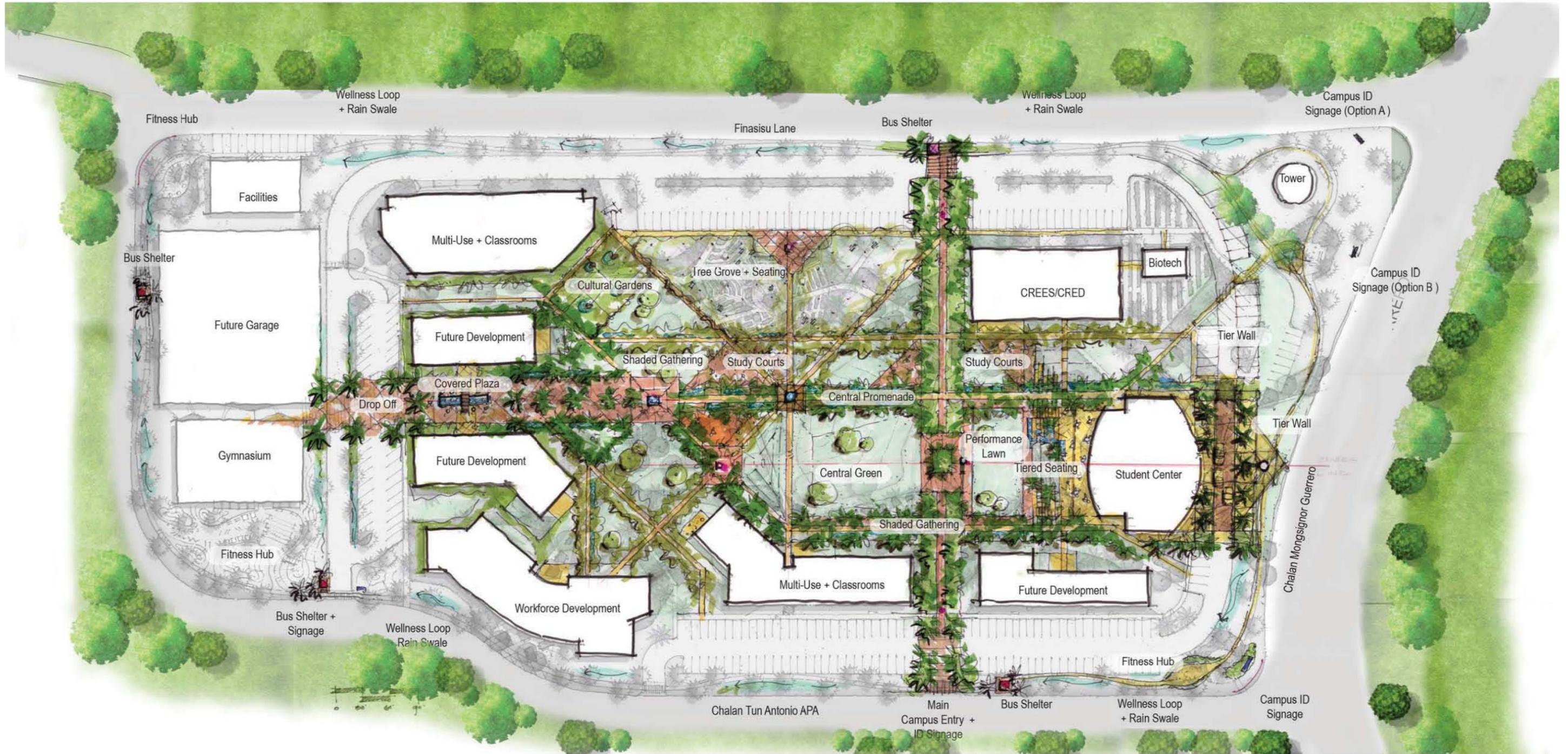
FUTURE EXPANSION



THE CAMPUS PLAN + VISION FACILITIES DEVELOPMENT

PHASE 03 OF THE FACILITIES MASTER PLAN

NMC CAMPUS COMPLETION



BUILDING PROGRAM SUMMARY

Overview of the Building program that includes educational *Departments*. All future facilities to include common area, mechanical and electrical room, IT room, restrooms, and storage spaces.

A - Plant Bio Tech Lab (Prepared by NMC. Excluded from FMP)

B - Student Center

- Library and services
- Bookstore
- Student Dining
- Financial Aid
- Career & Student Employment Center
- Admissions & Records
- Tech Lounge
- Outdoor Terrace Seating
- Testing Center
- CNMI Archives
- Project PROA Tutoring & Mentoring
- Student Success and Early Intervention
- ASNMC Office/Club Space
- Student Activities & Leadership
- Event Spaces
- International Student Center
- Disability Support Services

C - Workforce Development & Training Center (Total 16 Instructional Spaces)

- **School of Nursing** (Located on Level 1 for campus nursing emergency access)
- Community Development Institute (Recommended location Level 1)
- **School of Business** (Recommended location Level 2)
- Small Business Development Center (Level 2)
- Office of Institutional Advancement + NMC Foundation (Level 2)
- Training spaces / Offices (Level 3)

D – CRED Building

- Reception
- Support spaces
- Employee Offices
- Plant Biotechnology Lab (Tissue Culture)
- Food science & value-added product development lab
- Entomology lab
- Anthropometry Lab
- Multi-purpose room with stadium seating
- EFNEP extension lab

- Marketing and communications/media production room
- FCYD Extension lab
- Rooftop Greenhouse

E – Multi-Use Classrooms & Services (Total 16 Instructional Spaces, Labs)

- **Science, Math, Health and Athletics**
- **Natural Resource Management**
- Office of Technology (Level 1) & security monitoring
- Employee Offices

F – Multi-use Classrooms & Services (Total 16 Instructional Spaces, Labs)

- **School of Education**
- **Language & Humanities and Social Science & Fine Arts**
- **Criminal Justice**
- Employee Offices

G – Facilities + Property Management

- Materials management office
- Staging area (Interior + Exterior)
- Maintenance office
- Breakroom
- Workshop
- Locker room with showers
- Laundry space
- Secured chemical storage
- Tool storage
- Warehouse
- Maintenance materials storage
- Generator storage and valuables
- Docking bay and forklift area

H – Gymnasium + Event Center

- Men's and Women's restrooms / showers / lockers
- Full basketball court gymnasium
- Employee Offices
- Instructional Rooms
- Storage Rooms
- Performance Stage + Media Room + Back of house prep rooms

I – Future area for 2-Storey Parking Garage with rooftop garden

J, K, L, M – Future area for classrooms, labs, office spaces and services

N – Future Administration Building

- Executive Offices
- Human Resources
- Procurement
- Deans Offices
- Finance Office
- Grants Office

The completion of the NMC campus from Phases 01 to Phase 06 provides the following summary:

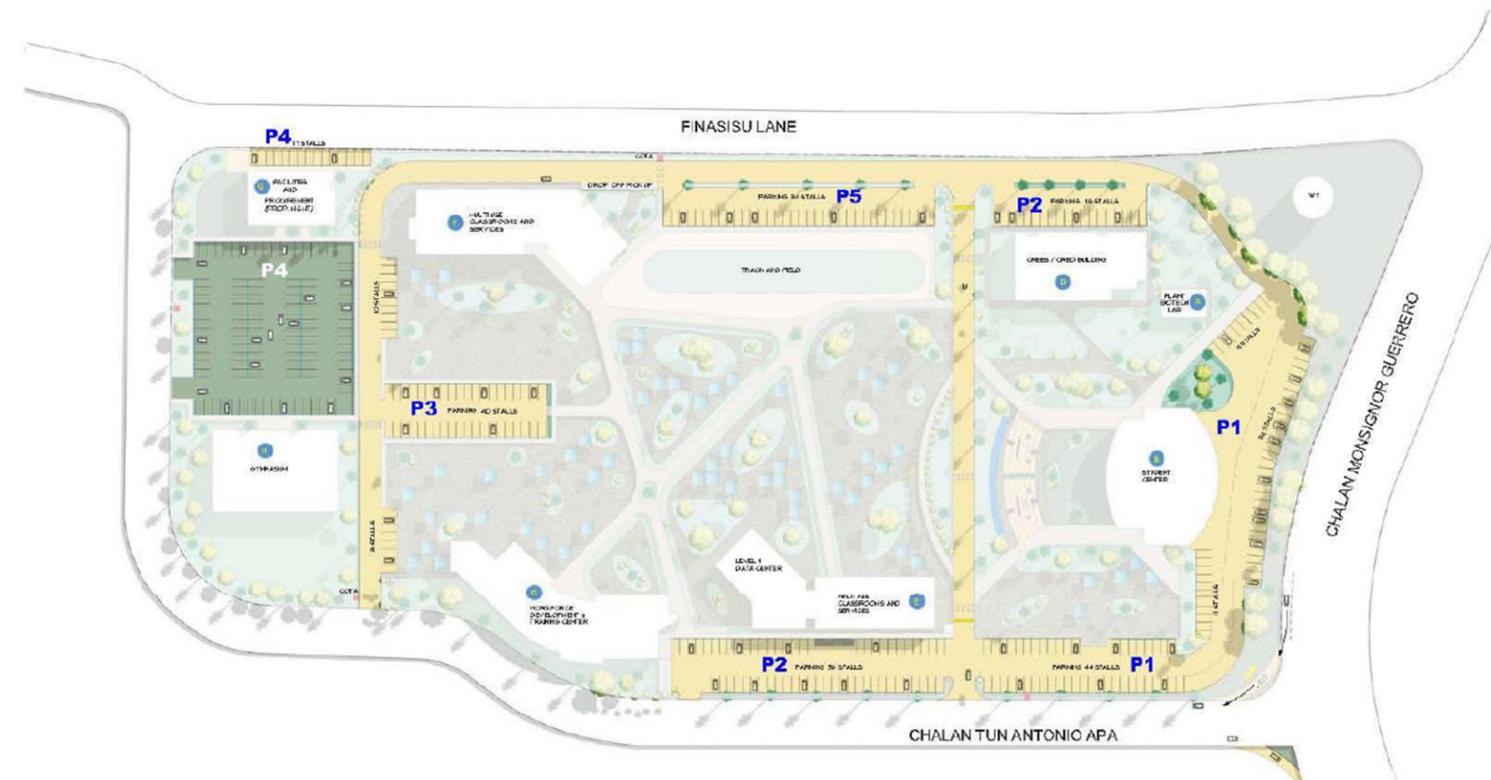
- **CLASSROOMS BASED ON PHASE 01 – PHASE 06**
 - Total 48 classroom spaces provided, estimated at 900 Square Feet / Room

NO.	DESCRIPTION	NO. OF FLOORS	NO. OF CLASSROOMS	AREA / FLOOR (Square Feet)
A	PLANT BIO TECH LAB	1	-	1,623 SF
B	STUDENT CENTER	3	-	16,036 SF / FLOOR
C	WORKFORCE DEVELOPMENT & TRAINING CENTER	3	16	17,978 SF / FLOOR
D	CREES / CRED BUILDING	2	LABORATORY/ SERVICES	12,300 SF / FLOOR
E	MULTI-USE CLASSROOM & SERVICES	2	16	15,300 SF / FLOOR
F	MULTI-USE CLASSROOM & SERVICES	2	16	16,774 SF / FLOOR
G	SERVICES (FACILITIES PROPERTY MANAGEMENT)	2	-	
H	GYMNASIUM	1	-	
I	FUTURE PARKING GARAGE	2	-	35,150 SF / FLOOR
J	FUTURE AREA FOR NEW CONSTRUCTION	TBD	-	
K	FUTURE AREA FOR NEW CONSTRUCTION	TBD	-	
L	FUTURE AREA FOR NEW CONSTRUCTION	TBD	-	
M	FUTURE AREA FOR NEW CONSTRUCTION	TBD	-	
N	FUTURE ADMIN. SERVICES BUILDING	TBD	-	
TOTAL CLASSROOM			48	

CAMPUS PARKING SUMMARY

- Approximately 160 existing parking spaces currently available
- Approximately number of employees is 240, estimate two-thirds on campus at a time is 158.
- Number of support staff and non-instructional faculty is about 75, estimate 80% on campus at a time is 60.
- **PARKING STALLS BASED ON PHASE 01 - PHASE 06**

DESCRIPTION	PROVIDED	TOTAL PARKING REQUIRED PER ZONING LAW (3+1 PER CLASSROOM)
CLASSROOMS PROVIDED AT PHASE 01	48	192
CURRENT EMPLOYEES	155	47 [IBC OCCUPANT LOAD, BUSINESS 100 GROSS]
TOTAL REQUIRED PARKING		239 PARKING STALLS
TOTAL PARKING PROVIDED		389 PARKING STALLS



PHASING AND IMPLEMENTATION PLAN

PHASE 01 Student Center

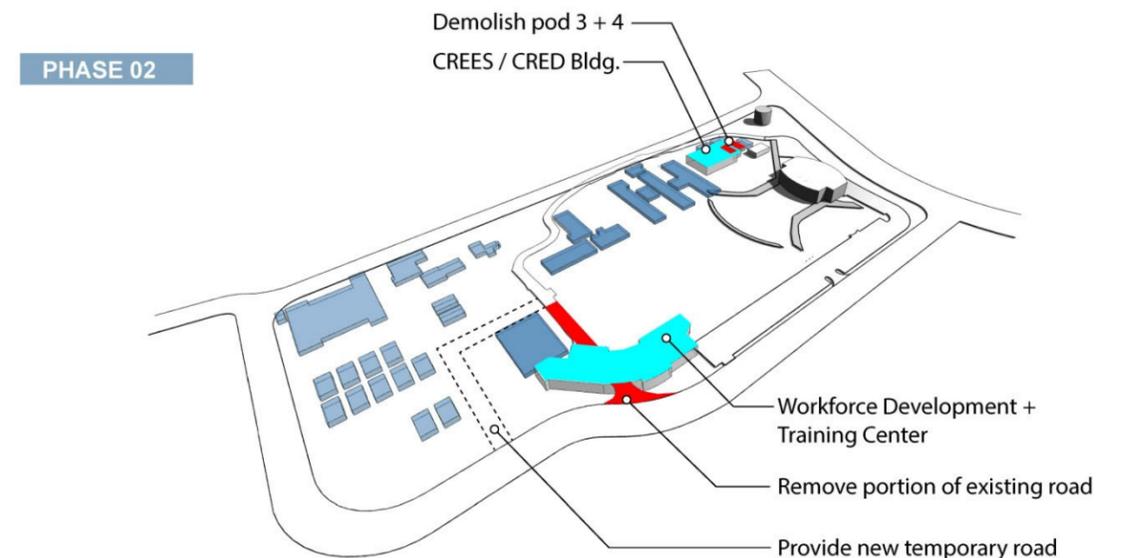
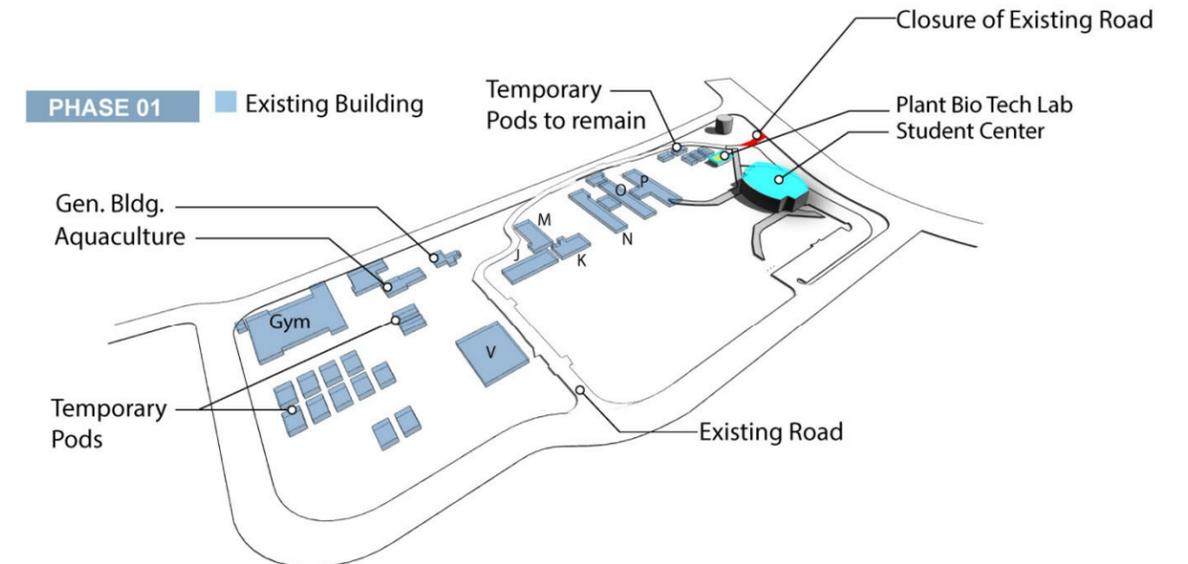
The construction of the Student Center will serve as the flagship building of the new campus development. The 3 story building will serve student needs such as student resources, financial aid, archive room, library, study rooms, and student cafeteria. Phase 1 will also include the following features:

- Uninterrupted operations of existing campus buildings and roads during construction
- Closure of Entry road from North West corner of property to avoid potential accidents from westbound traffic along Chalan Monsignor Road
- Construction of the new main campus entry to include new parking lots which will serve the student center
- Plant Bio Tech Temporary lab to be constructed alongside the new Student Center
- The student center will be located on the highest point of the property with the main entrance facing the student Quad to include exterior developments that support student activities such as amphitheater seating, ADA accessible ramp, and water feature
- The student center to include backup generator, temporary IT service connection from building N which is NMC's current main server room.
- Construct COTA bus stop
- Recommended Facilities building be constructed at Phase 01

PHASE 02 Workforce Development + Training Center & CRED BUILDING

Phase 02 involves the construction of a 3 story workforce development and training center building and the new CRED building. The WFDTC will be occupied by the School of nursing, school of business, CDI, and SBDC programs. The CRED building will include office spaces, lab rooms, and multi-level seating room. The work will involve the following:

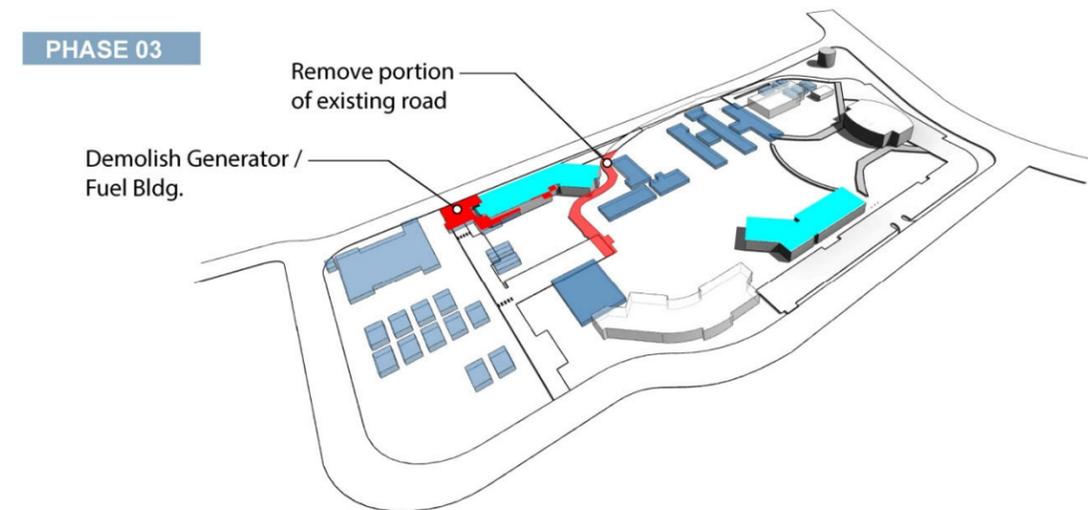
- Construction of new parking lots for both new buildings
- Remove portion of existing campus road for new WFDTC construction
- Provide new access road (shown in dash) for temporary exiting out of campus
- Demolition or relocation of Pod 3 and 4 for new CRED building construction
- Both newly constructed buildings to include backup generator and temporary IT service connection from building N.



PHASE 03 *Multi-purpose Classroom Building*

Phase 03 involves the construction of 2 two story Multi-use classrooms and services building. Each building to be provided with a total of 16 classrooms per building. The work involves the following:

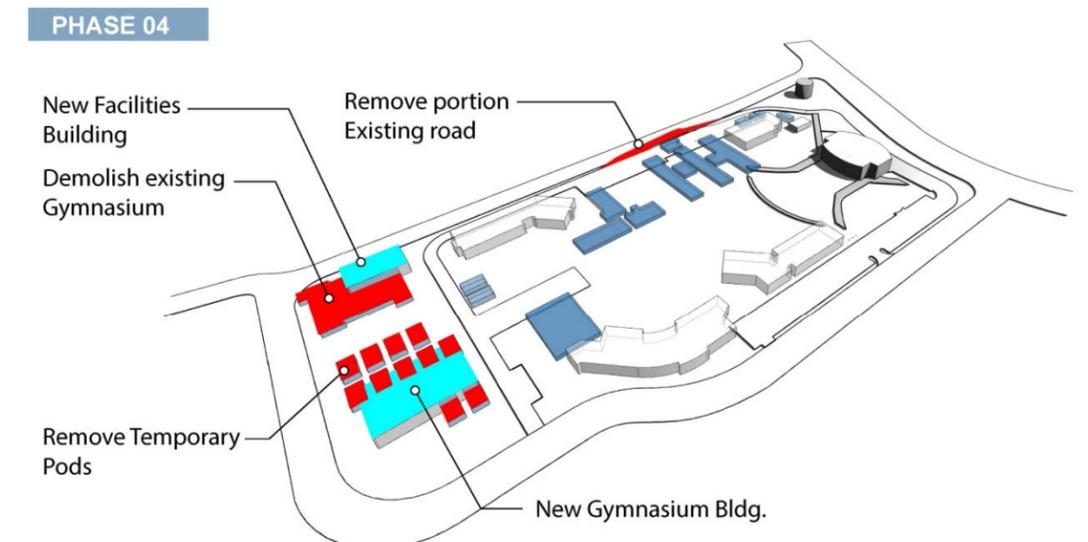
- Demolition of existing generator and fuel tank building
- Remove portion of campus local road for construction of new road
- Construction of new parking lot, P3
- Provide backup generator per building
- Upon completion of new Building E, transfer IT network operations center to newly constructed building E



PHASE 04 *Facilities and Gymnasium Building*

Phase 04 involves the construction of the facilities maintenance warehouse and procurement (property management) services to include exterior storage space and construction of the new NMC gymnasium. The work involves the following:

- Demolish existing gymnasium for new construction of facilities warehouse
- Removal of all temporary classroom pods for construction of new pervious paving parking lot, P4
- Construct parking lot for facilities building, P4
- Provide Facilities exterior storage space
- Provide IT service connection for both facilities and gymnasium building from new Building E



PHASE 05 *Removal of all existing Structures*

Phase 05 involves the removal of all remaining existing structures to allow for the completion of the campus quad:

- Removal of all remaining existing buildings V, J, K, M, N, O, P
- Remove portion of existing road for completion of main campus road and remaining parking lot, P5

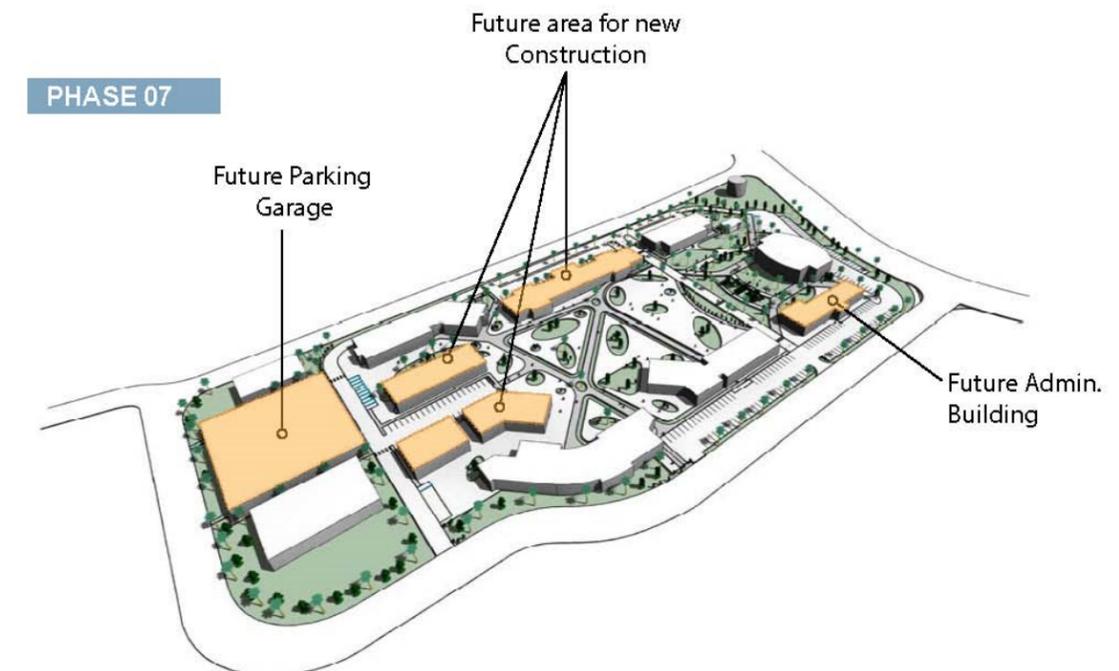
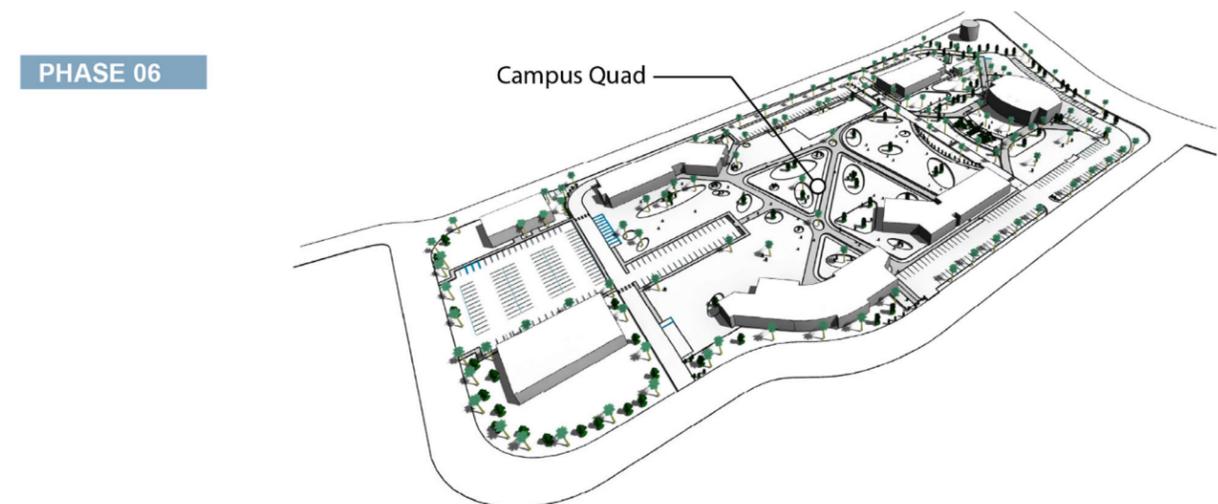
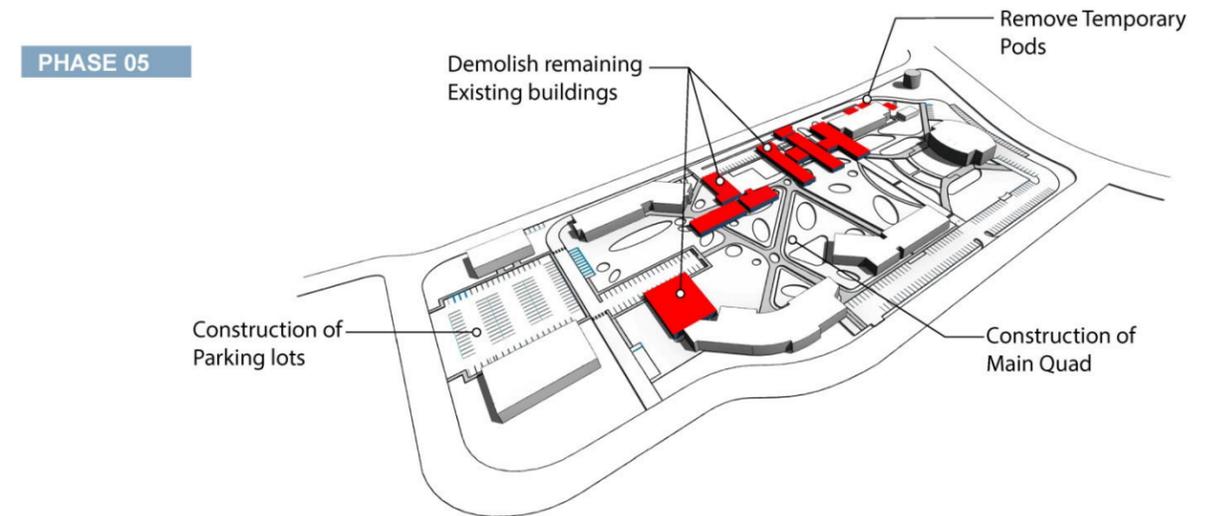
PHASE 06 *Campus Quad*

Phase 06 involves the construction of the campus quad to support student health and outdoor activities.

- Construction of the Quad to include pedestrian pathways, permeable surfaces, and tropical floral/fauna landscaping features, and pocket gardens
- Provide ground support to accommodate for removable sun shade sail devices
- Provide covered walkways
- Provide student seating and tables scattered throughout the quad
- Provide Outdoor charging stations, wayfinding signages, and main campus entry gate signages
- Provide Permeable surfaces at student lounging areas
- Provide cultural monuments of significance throughout

PHASE 07 *Future areas for new construction*

Phase 07 is the completion of all current grant funded building construction that will allow for future growth within the new NMC campus facility. At this time, the campus will be utilized to the full extent to support all student and faculty needs and activities.



DESIGN GUIDELINES

OVERVIEW

The design guidelines are a means to communicate the desired characteristics (look and feel) for all future construction and site work for the Northern Marianas College Facilities. The design guidelines promote student success and enhance experience through long-term goals and planning vision. This section focuses on how future designers can integrate their work into NMC's vision for strengthening the college's identity.

Design vision and goals include creating a sense of place, cohesive harmony and establishing NMC's unique aesthetic character. Site work design should encourage a welcoming environment, safe and clear of vehicular traffic, and wayfinding.

Designs should provide typologies and connectivity throughout the campus. The design should

support and align with the sustainability goals of the FMP and foster community connection. Gathering spaces are provided to increase engagement including interaction between diverse groups.

The goals and visions described should be used as a template for key areas that should be implemented when a new project is initiated.

A. RESHAPING THE EDUCATIONAL LEARNING ENVIRONMENT

In 2020, the COVID-19 pandemic presented many challenges for students and employees which forced leaders to rethink the unprecedented road ahead. Students and employees had to eliminate face-to-face interaction and prepare for transitioning to online learning. Figure 1 describes the issues students faced during the transition, as well as post-pandemic outcomes. Objective 1 explores redefining educational spatial programs and social interaction by removing

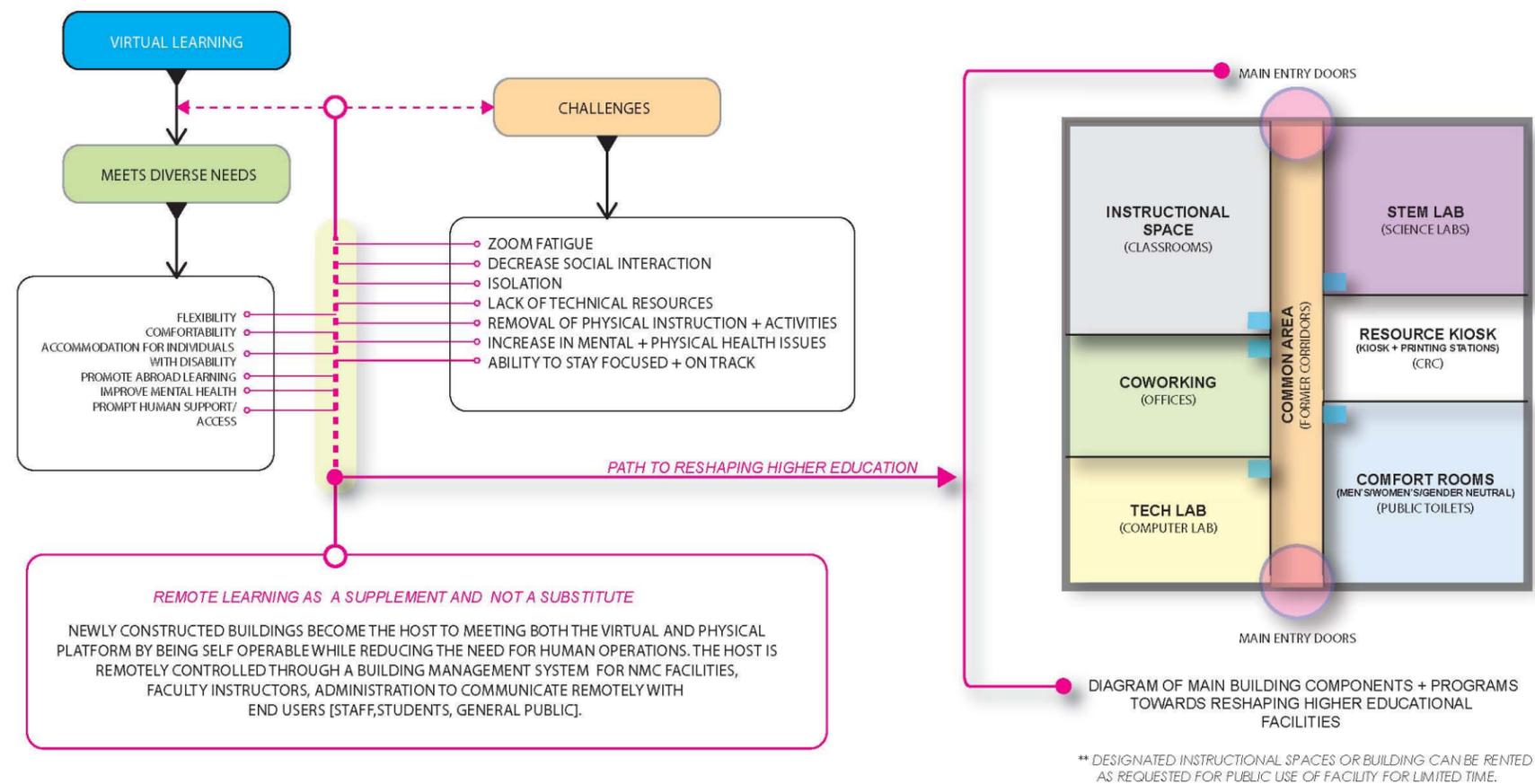


Figure 1. Redefining the learning environment diagram

constraints and allowing for flexibility to the learning environment.

Remote or distance learning is a supplement and not a substitute to traditional learning. Newly constructed buildings will be equipped with building information systems technology designed to support learning platforms whether physically present or remotely logging in.

The building components diagram displays typical programmatic spaces to be retrofitted within newly constructed buildings. Names of traditional spaces were reconceptualized to support the notion of forward thinking of a new learning environment.

THE HOST (Building Structure)

Newly constructed buildings shall be designed to provide controlled access (See figure 1) within the following key areas:

- Provide secured key card access or facial recognition scanner at entry doors. All doors to be provided with controlled access and to include the traditional locket with key access in the event of a power disruption
- Provide built-in temperature screening and automatic hand sanitizing stations at all entry doors

COMMON AREAS (Building Corridors)

Consider corridors and common areas to include digital informational signage as shown in figure 2:

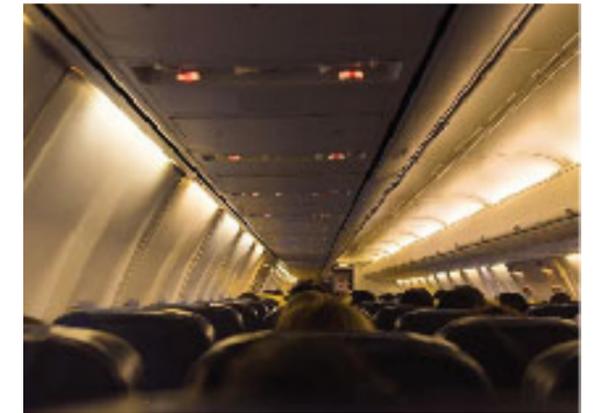
- Provide built in commercial air purifiers
- Provide Multiple sanitizing stations
- Consider Motion sensor lighting and temperature control
- Built in digital informational monitors to display class schedules or room use
- Provide aisle way lighting for safety and directional lighting
- Consider digital display boards as required for seasonal promotional use to college events or other matters of interest



Fig. 1 Examples of touch less door and key card scanner



Fig. 2 Examples of airport flight schedule board, aircraft aisle lighting, digital board



INSTRUCTIONAL SPACE (Classrooms)

This section thinks beyond the traditional classroom setting while combining both traditional and virtual setting capabilities for its users. Key features involve providing flexibility and advanced technology to support all types of use and needs, see figure 4.

Although most students may prefer the ease of online learning, students are provided the option to physically attend classes on campus if they choose. Courses can be streamed online remotely with or without a physical instructor.

Providing both online streaming and physical learning space exercises the practice of flexibility. See figure 3 and 4 of examples of instructional spaces in various types of settings and areas within a building. The room provided is a multi-purposed space that can accommodate all types of student services.

- Provide modular furniture, lounge seating, and work desks
- Utilize opaque or semi-transparent writable walls
- Utilize writable wall finishes
- Provide controlled air temperature with air purifier
- Provide motion sensing lighting
- High-speed internet capability
- Smartboards

STEM LABS (Science, Technology, Engineering, and Math Labs)

Promote enhancing scientific experiments by using smart boards and 3-dimension headsets to perform experiments to the extent feasible as shown in figure 5.



Fig. 3 Example of Digital smart board



Example of 3-dimension teaching

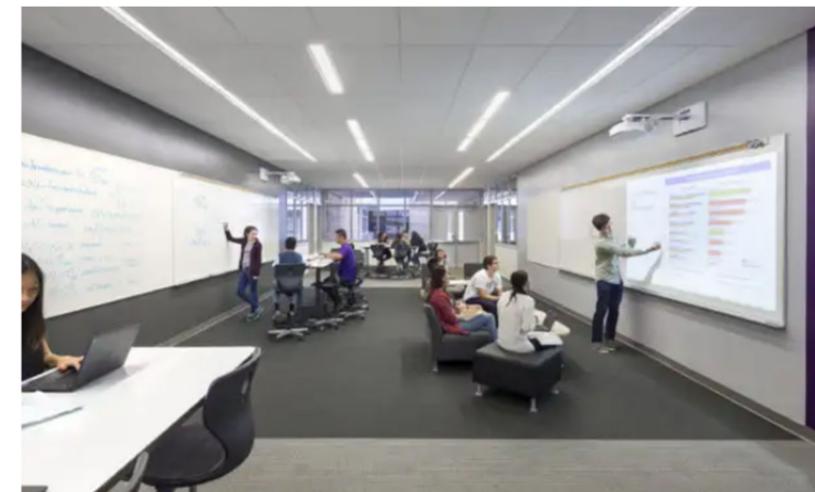
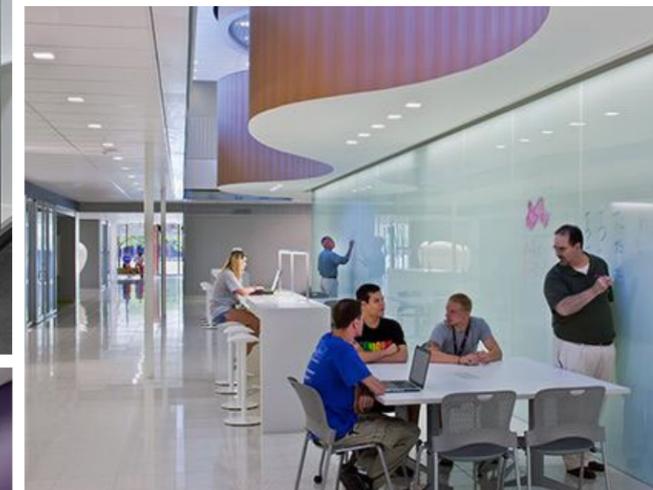


Fig. 4 Examples of flexible instructional spaces



COWORKING (Office Spaces)

Provide a collaborative office environment to encourage teamwork, creativity, social interaction, and culture. Provide breakout spaces as shown in figure 6 that provide space for privacy within a collaborative setting. Provide working tables for individual or group discussion to occur.

- Provide flex seating and modular furniture,
- Provide non-permanent partition walls or dividers
- Provide smart boards, AV system
- Provide furniture for group collaboration

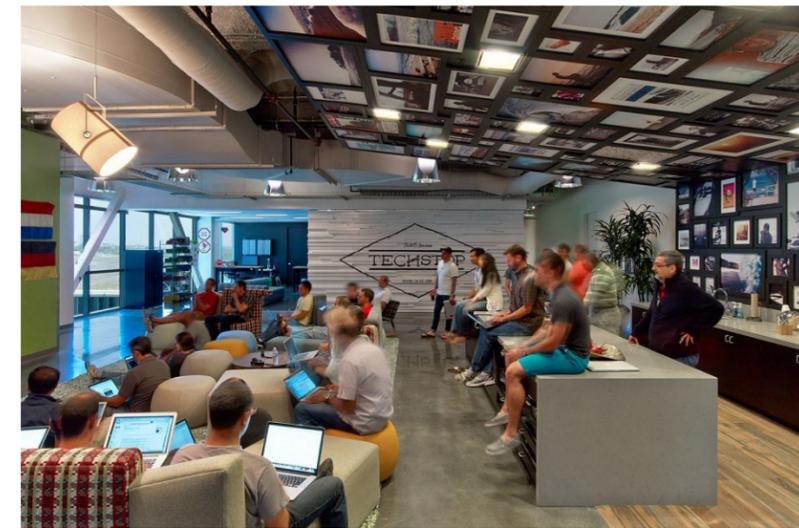


Fig. 5 Examples of collaborative Office Environment

TECH LOUNGE (Computer Lab)

The repurposing of computer labs aims to increase study and workspace by removing traditional computers along rows of desks. Most, if not all, students will own laptops and be able to log in from anywhere on campus. However, the repurposed tech lounge will be available to accommodate student needs, such as a few stationary laptops with software that may be program specific and to include printing services. The tech lounge setting as shown in figure 6 provides comfort and convenience for all provided with technological resources to support student and employee needs.



Fig. 6 Example of lounge seating

B. GENERAL + REGULATORY GUIDELINES

To protect the health, safety, and welfare of the public, all newly designed and constructed facilities shall comply with the following regulatory guidelines and design standards:

- Saipan Zoning Law 2013
- International Building Code 2018 or latest edition
- Tropical Energy Code Council
- Americans with Disability Act (ADA) Design Standards
- Meet Seismic Zone 4 Requirements
- Meet Building Code Wind Load (195 mph)
- Meet LEED Silver, as a minimum
- Design for a 50 year life expectancy

C. LANDSCAPING

The landscape design establishes the focal point of the Facilities Masterplan design. The courtyard is significant to social and intellectual campus community, engagement, and activities.

Characteristics to include:

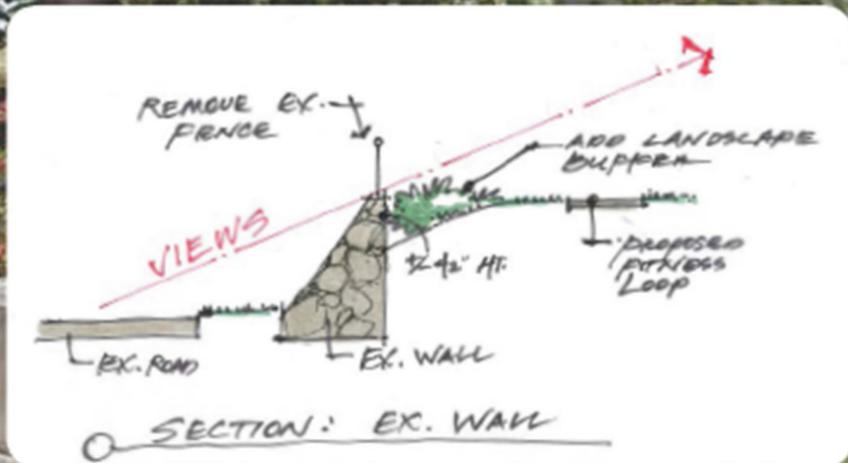
- Creating a strong connection between the interior and exterior of the campus
- Extend architecture into the landscape to promote identity and character
- Use of local / native floral, tropical palms, and ornamental plants to define pathways and edges
- Provide a water feature to mimic the presence of the island's ocean
- Promote the landscape as a living space
- Use of low walls or planted edges to define exterior spaces
- Create tiered seating utilizing the natural topography of high to low lying areas
- Include ample LED lighting, up lights, and street lighting throughout the campus for student safety and directional lighting. Use solar lighting and energy efficiency sensors / controls
- Provide shelter for rain / sun protection
- Maximize the use of shade plantings, avoid large trees with wide root systems
- Consider options for enhancement of street facing NMC campus along Chalan Monsignor Road. See *Street Facing Considerations* Diagram on Page 51.



STREET FACING CONSIDERATIONS

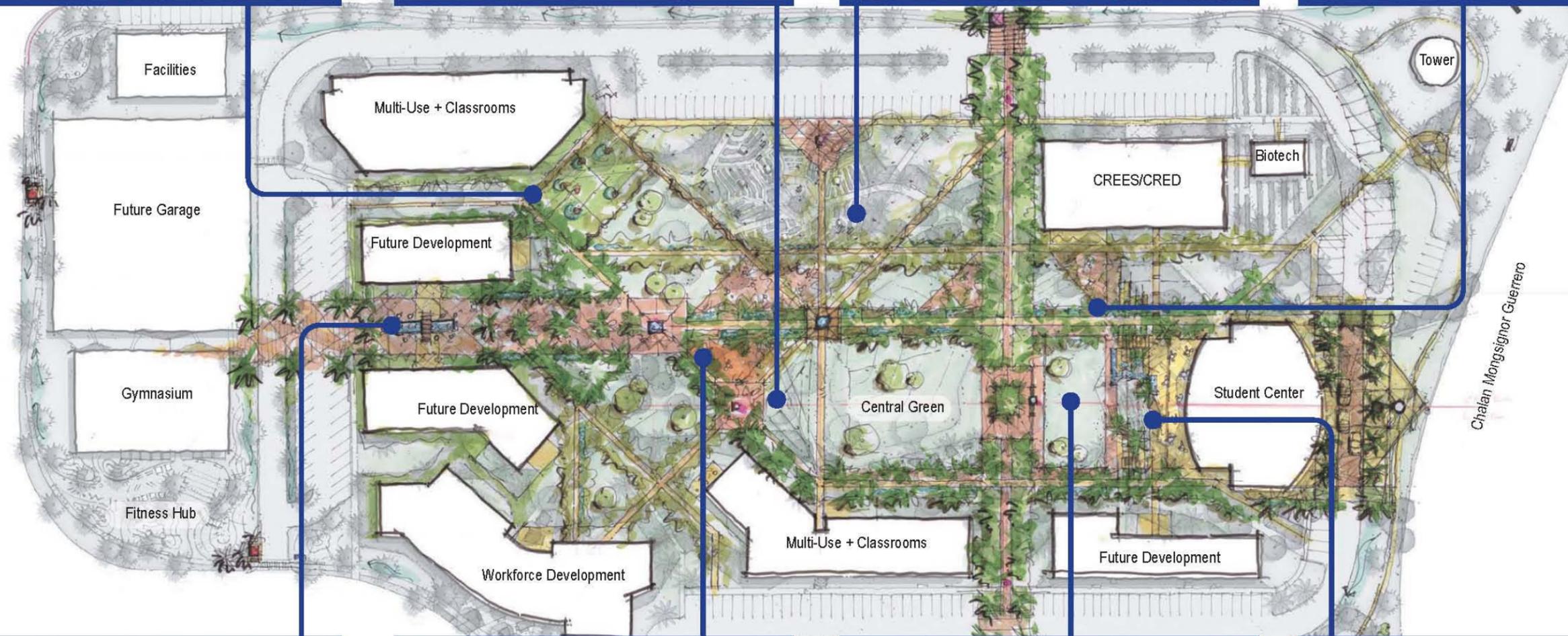
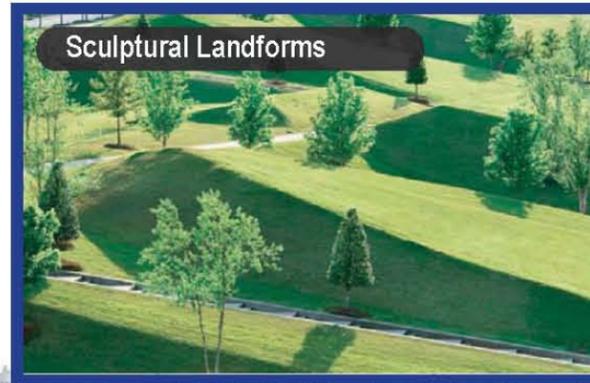
**Consideration A:
Remove Metal Fencing**

**Consideration A:
Regrade Back of Wall in order to
Not Require Fence**



**Consideration B:
Tier Wall to Increase Views to
Student Center**







Activate Building Adjacencies



Architectural Portals



Blur Lines of Outdoors



Colorful Facade



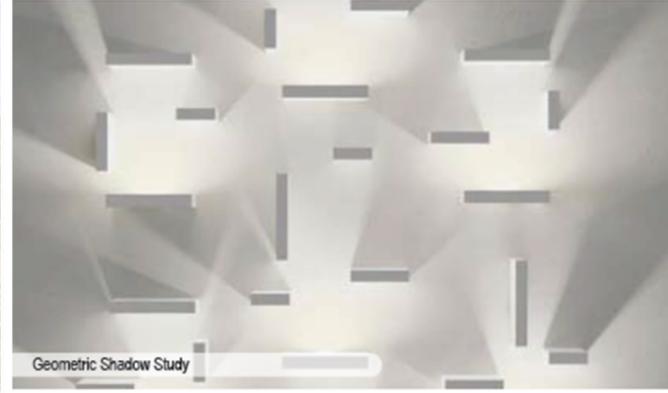
Larger Than Life Shadow Art



Sculptural Shade Elements



Natural Topographic Features



Geometric Shadow Study

Integrate Architecture and Landscape

07/16/2021 BCH



Shadow Interest



Day + Night Color Interest



Modular Panels



Modular Panel Etching



Night Time Interest

Artful Intervention at Existing Water Tower

07/16/2021 BCH



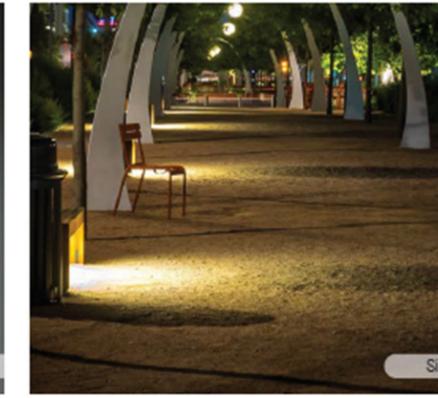
Accent Lighting



Site Lighting: Pedestrian and Vehicular



Pedestrian Lighting: Bollard Lighting





Blur Lines of Landscape and Hardscape



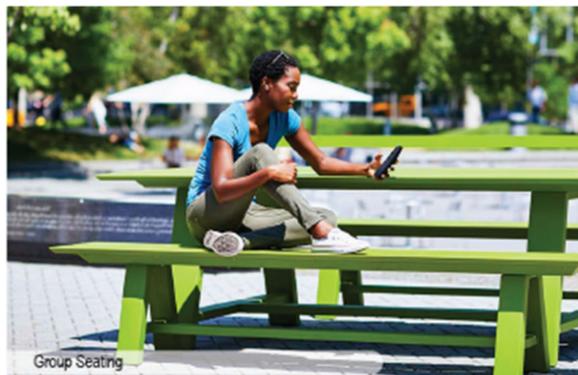
Large Scale Paving Patterns



Movable Furnishings



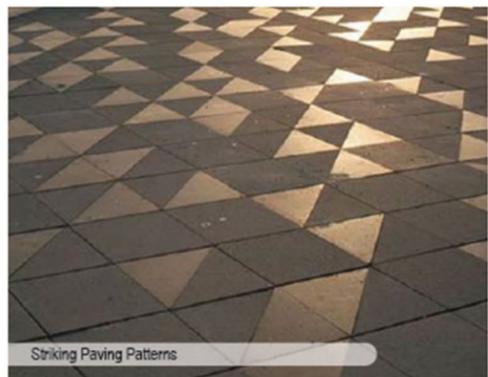
Sculpted Seating



Group Seating



Local Stone Paving



Striking Paving Patterns



Colored Concrete and Etching



Angular Raised Planting



Integrated Seating at Landscape



Tiered Stair/Bench Seating at Grade Change

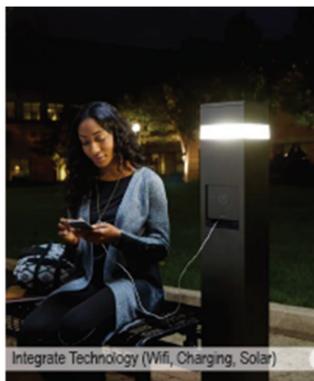
Hardscape Concepts

07/16/2021
Northern Marianas College - DRAFT Masterplan



Furnishings and Seating Opportunities

07/16/2021
Northern Marianas College - DRAFT Masterplan



Integrate Technology (Wifi, Charging, Solar)



Sculpted/Tier Lawn



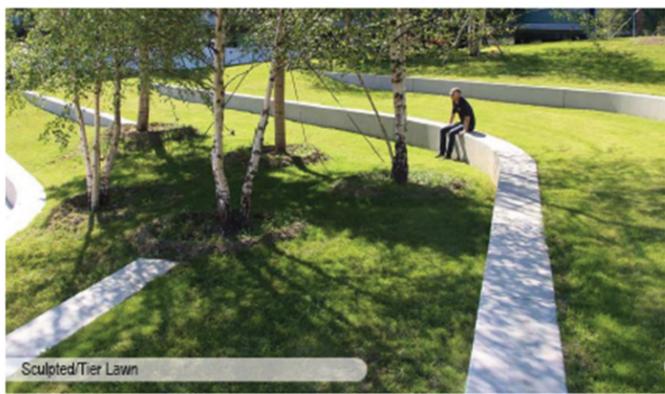
Movable Furnishings at Shaded Study Areas



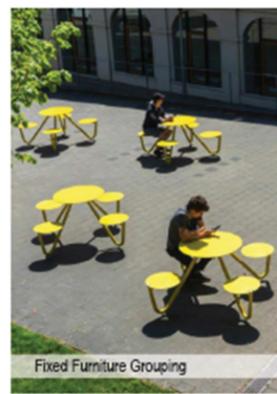
Bag Toss



Foosball



Sculpted/Tier Lawn



Fixed Furniture Grouping



Tiered Stair/Bench Seating at Grade Change



Chess Integrated into Seating



Shade + Hammocks



Table Tennis

Furnishings and Seating Opportunities

07/16/2021
Northern Marianas College - DRAFT Masterplan



Activation and Interaction

07/16/2021
Northern Marianas College - DRAFT Masterplan





Loop Materiality: Colored Concrete



Interlocking Recycled Rubber Paver



Fitness Equipment Notes Along Loop



Anti-Climb by Ameristar



Sculptural Piers



Mile Marker at Walking Loop



Bicycle Parking Areas at Key Locations



Vertical Steel Piers



Metal Frame with Cable Infill



Cable Infill with Vertical Members



Planting Considerations: General Campus Shrubs and Groundcovers

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Northern Marianas College - DRAFT Masterplan



Planting Considerations: General Campus Trees and Palms

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Planting Considerations: Cultural Gardens

07/16/2021
Northern Marianas College - DRAFT Masterplan



Planting Considerations: Cultural Gardens

07/16/2021
Northern Marianas College - DRAFT Masterplan





Sculpture Using Local Materials and Artists



Medicinal Planting with Educational Signage



Bioswale as Amenity



Stormwater Strategies (Rain Swales, Infiltration)



Custom Planters with Local Patterns



Local Masonry and Stonework



Cultural Garden Moments



Material Re-Use (Timber from on-site)



Educational Signage



Re-Use On Site Materials within Landscape

D. CIRCULATION

Circulation is an important component of the Facilities Masterplan; it enables how one moves through the campus creating an enjoyable experience. Parking locations and pedestrian access to bus shelters shall be prioritized.

- Consider permeable paving surfaces at parking locations
- Provide solar parking canopies and plant shade cover to reduce heat island effect. Consider parking lots as garden areas
- Utilize permeable areas designed for storm water management systems
- Provide bicycle racks and parking spaces for small motor vehicles
- Pedestrian pathways to provide easy movement, including ample room for bicyclists throughout the campus
- Building entrances should be oriented with major circulation routes
- Provide direct building-to-building connectivity



Fig. 7 Example of Solar parking canopy structure



Fig. 8 Example of Widening of Pedestrian paths

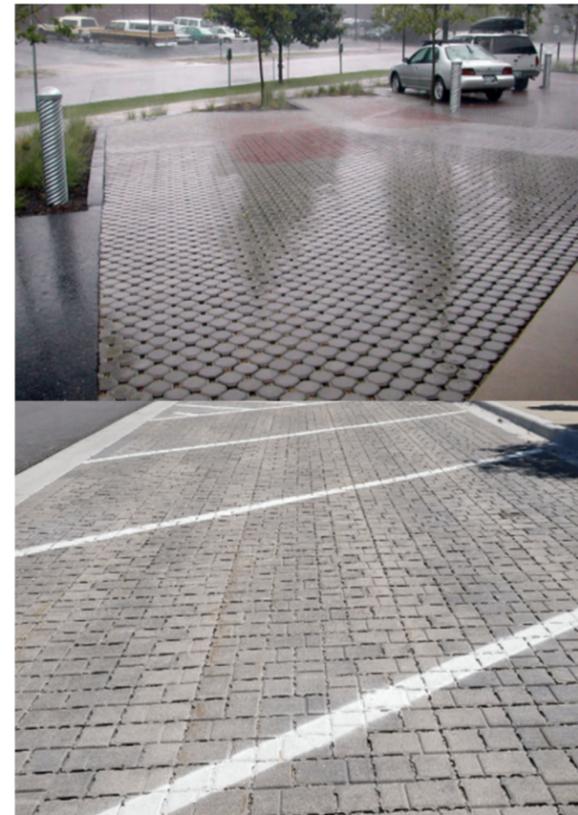


Fig. 9 Example of Permeable paving surface concepts



Fig. 10 Example of Tree planting along parking edges concept



E. GENERAL BUILDING INTERIOR

- Capture views of the lagoon and surrounding natural features
- Provide flexibility in terms of space
- Maximize use of natural light and ventilation
- Provide shading techniques to minimize heat absorption
- Ensure items subject to displacement by seismic forces are securely anchored
- Railings (cable, transparent, glass, opaque)
- Provide skylights
- Provide combination of staircase and seating at large common areas
- Utilize high ceilings at common areas
- Consider composition of material finishes such as wood, planter wall, exposed industrial materials, wall art and graphics as wayfinding elements, bright accent colors to express liveliness and excitement. Warm colors for pocket areas of concentration and focus



Fig. 11 Example of Student lounge concept at common areas

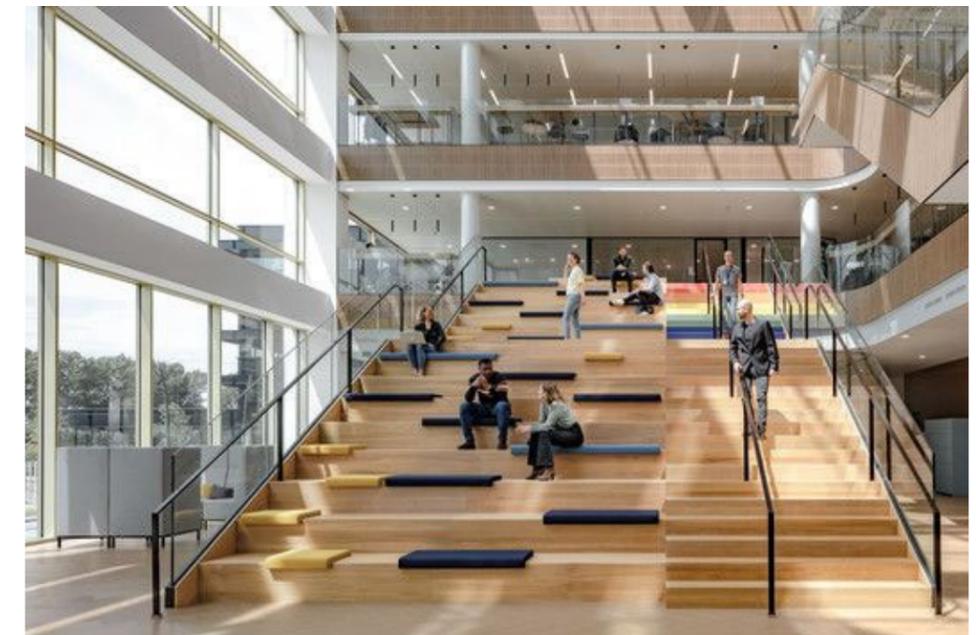


Fig. 12 Example of Passive Daylighting and student seating feature at stairs

F. ARCHITECTURAL AESTHETICS

Site Planning Strategies, Building Mass, Roof Forms, and Sun Shade Techniques

- Divide building volume of a single mass and to promote spatial relationship to the human scale. Develop consistent building scale and character for each building.
- Orient buildings East to West for hot-humid temperate climate
- Consider cross ventilation and operable windows
- Consider roof typologies that mimic the undulation of the mountain backdrop
- Promote passive day lighting and solar energy strategies
- Consider relation to the campus and surrounding area
- Enhance building facades with a composition and layering of materials, Brise-soleil and motorized sun shading devices, glass facades, reveal lines, and surface patterns to increase visual interest.

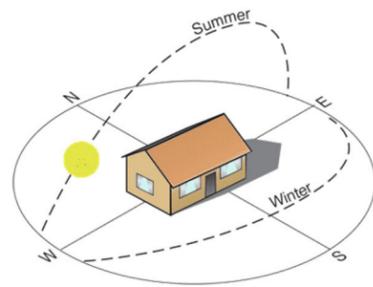


Fig. 13 Sun Diagram for building orientation in Hot-Humid climate areas

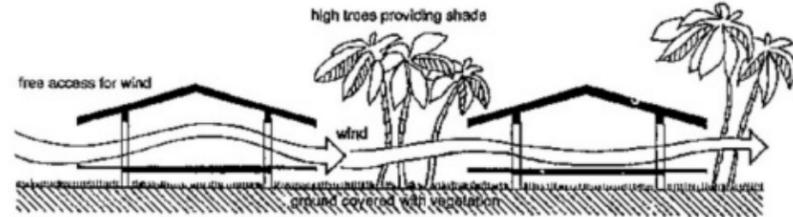


Fig. 14 Cross Ventilation and Vegetative Shading



Fig. 15 Example of building mass composition



Fig. 16 Example of sloped Roofs



Perforated sun screen



Vertical louver sun control



Solar façade



Brise Soleil

Fig. 17 Examples Architectural Sun Control Considerations

Architectural Character

- Utilize building form to provide hierarchy and depth to main entrances as a visual + memorable experience
- Consider tall exterior columns for vertical element and freestanding monument for walkways
- Integrate curve architecture organically

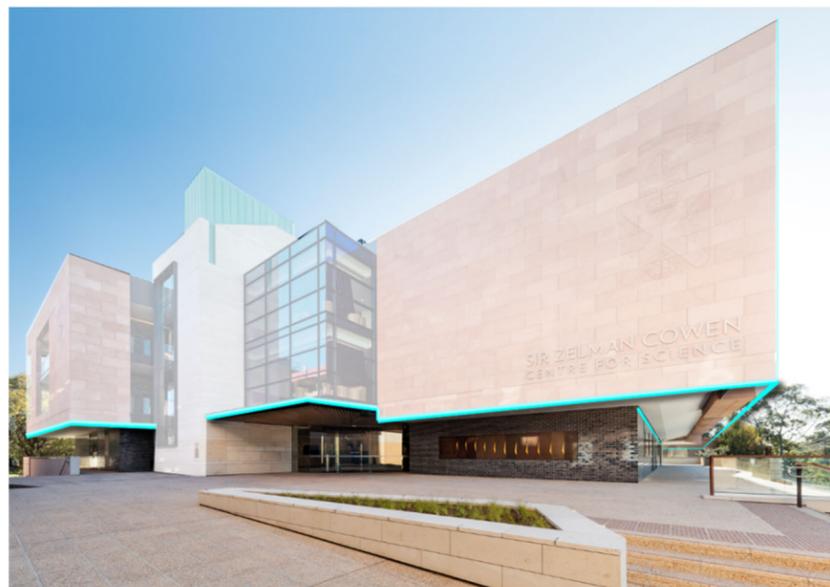


Fig. 18 Example of building forms defining main entries and student paths



Fig. 19 Example of Tall Exterior Columns

Exterior Finishes + Color Palette

- Exterior Metal / Aluminum cladding
- Concrete with plaster finish or natural concrete finish with sealant
- Stone cladding
- Perforated metal cladding systems
- Consider neutral color palette, use bright / bold colors for accent and consistency throughout campus buildings to convey the personality of the campus. Consider official NMC red, white, and black colors as accents

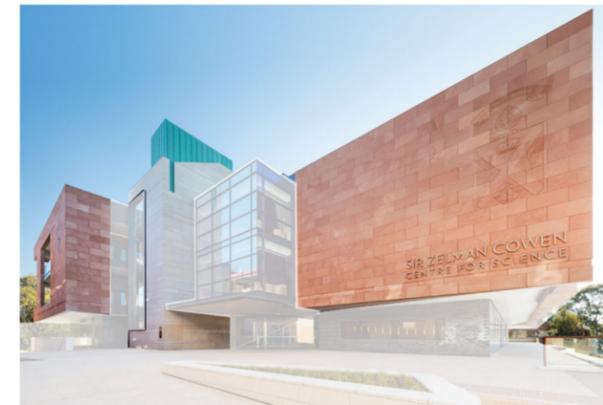


Fig. 20 Material and systems considerations



Fig. 21 Example of perforated screen used for parking garage

G. WAYFINDING Strengthening NMC's College Identity

- Signage typologies that will visually bring signage to life, express meaning, create interest, and leave a memorable impression
- Provide promotional signages that express the College's identity and community pride throughout campus thresholds, gathering spaces, parking lots, and pathway connections.
- Provide artistic monumental signage composed to promote a sense of identity + pride + awareness. Embrace the native culture through art and patterns with building materials.



Fig. 22 Examples of Wayfinding signage's

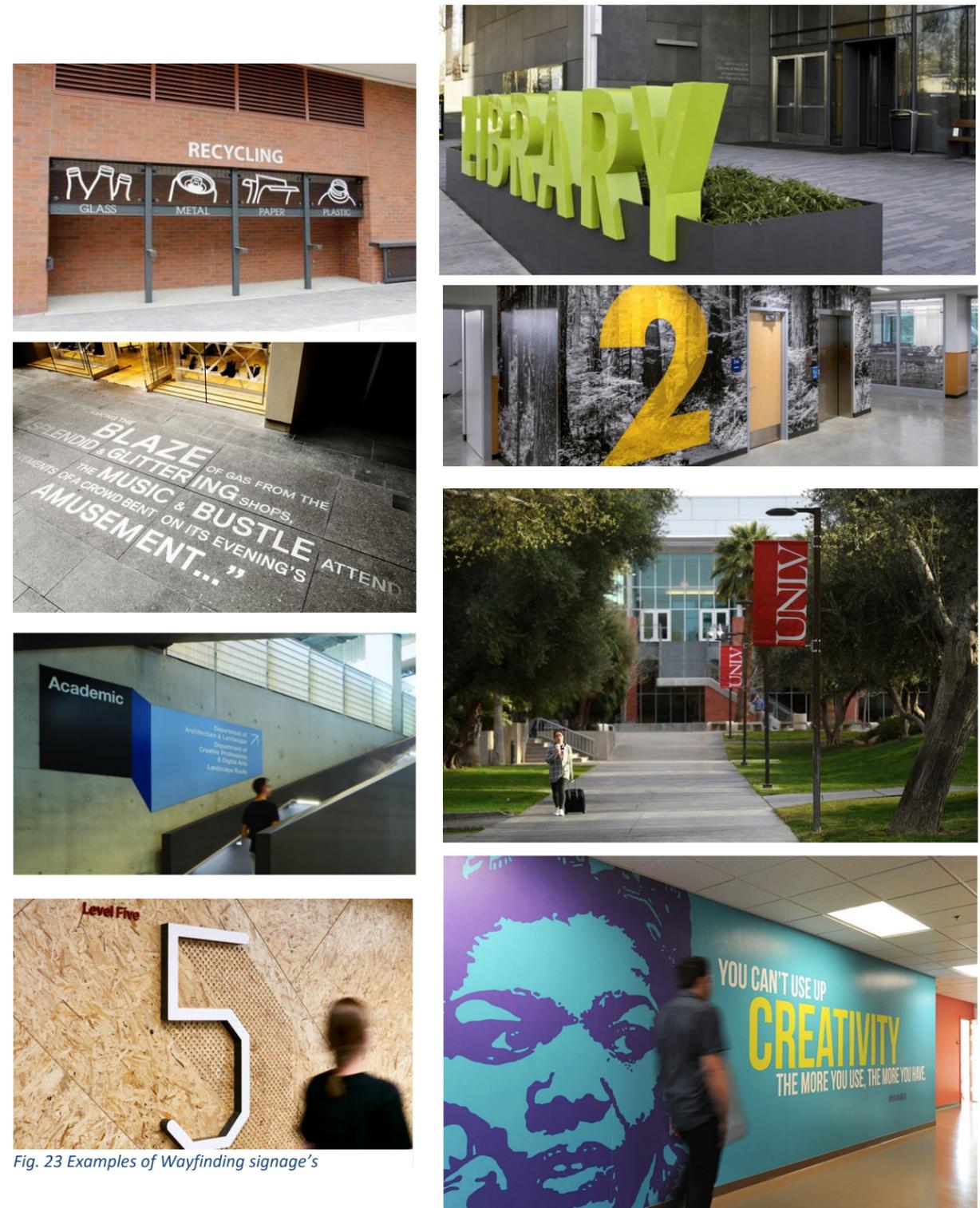


Fig. 23 Examples of Wayfinding signage's

Found on whatisblik.com

WAYFINDING

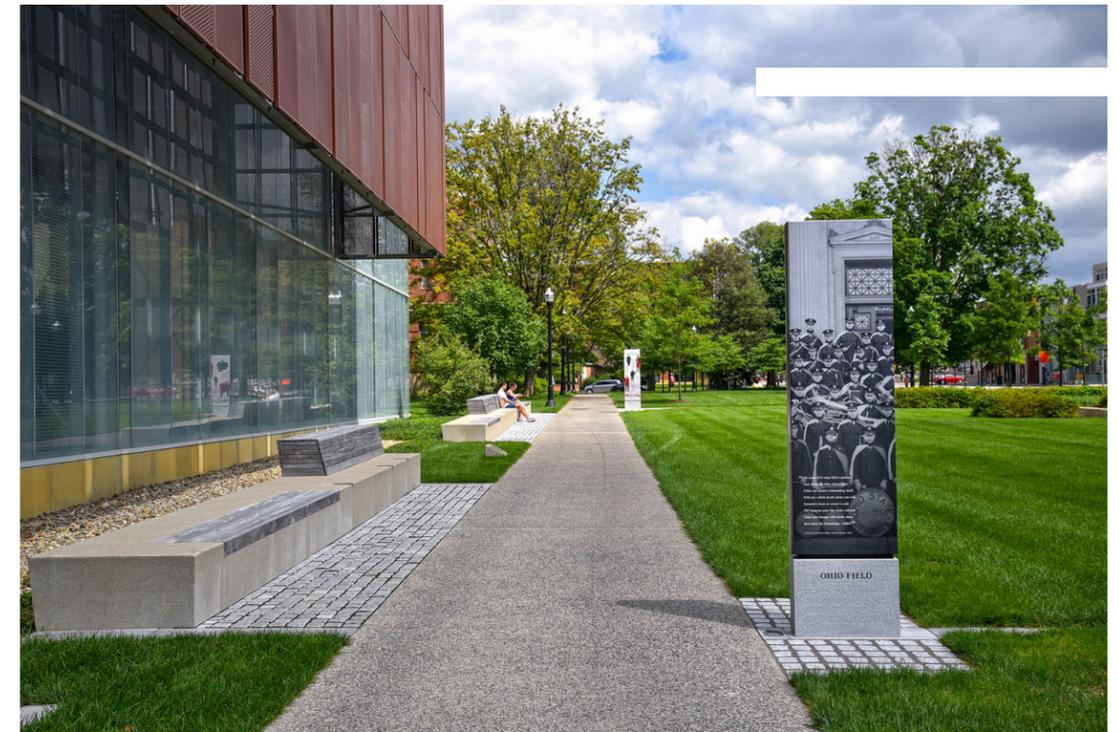
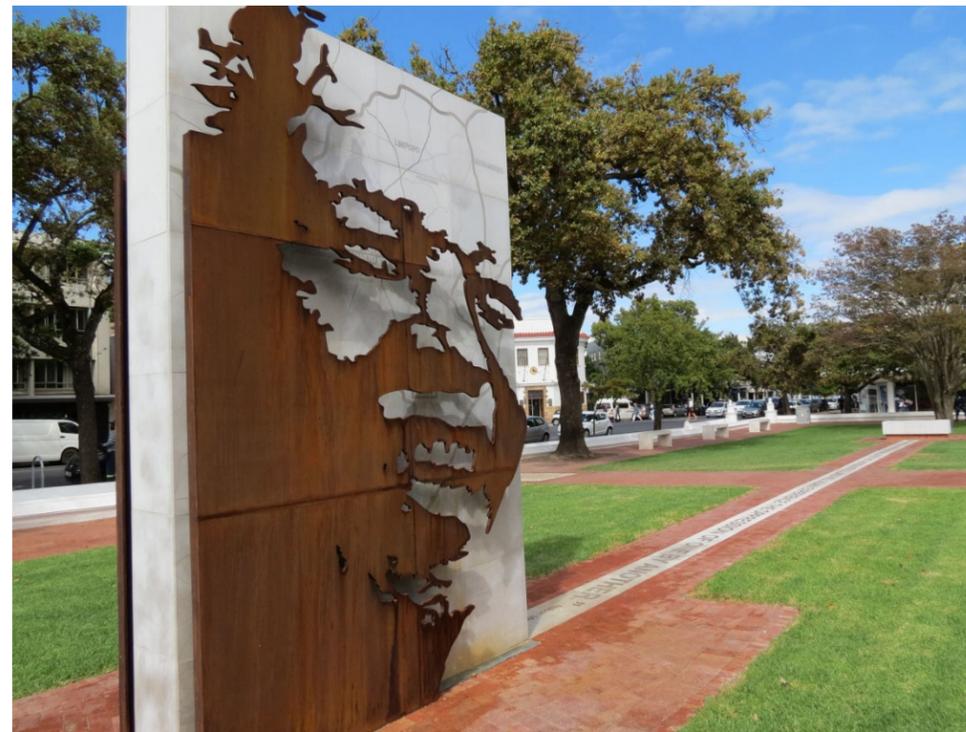


Fig. 24 Examples of artistic signage's



Fig. 25 Example of campus gateway

H. CULTURAL DESIGN ELEMENT Incorporating cultural Imagery

OVERVIEW

The Northern Mariana Islands is comprised of many distinct cultural traditions. This section explores the interpretation of cultural elements to be considered as a common key feature throughout each building design that is aesthetically pleasing. Future designers shall modify the patterns as needed.

Apply appropriately as an accent feature that is not overly empowering or repeated continuously. Provide an experience of discovery whether to frame a design element, main entrances, exterior and interior walls and floors, columns, and window treatment.

Create a strong impression and experience with the layering of details throughout various spaces.

H.1 Cultural dress pattern

“LIGHATÚTTÚR”, Refaluwasch bead necklace

Application: Interior mosaic floor tile pattern
Material options: Stone Tile



Fig. 26 Examples of bead necklace and floor pattern



Sample of colorful tile patterns



Sample of tile pattern applied in lobby / atrium

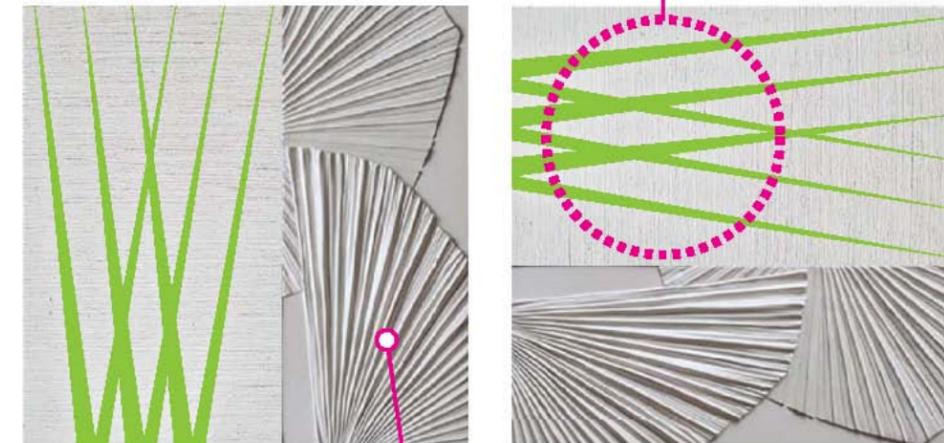
Chamorro / Refaluwasch native dress

Application: wall cladding

Material options: Prefabricated metal panels or stone tile



Fig. 27 Example of native dress



Other Tropical leaves pattern

H.2 Feature Wall Patterns for consideration

“Sakman”, Chamorro Proa

Application: Interior and Exterior wall accent mimicking a fleet of sails

Material options: Concrete texture finish, Prefabricated 3D Panel, or ceramic tile

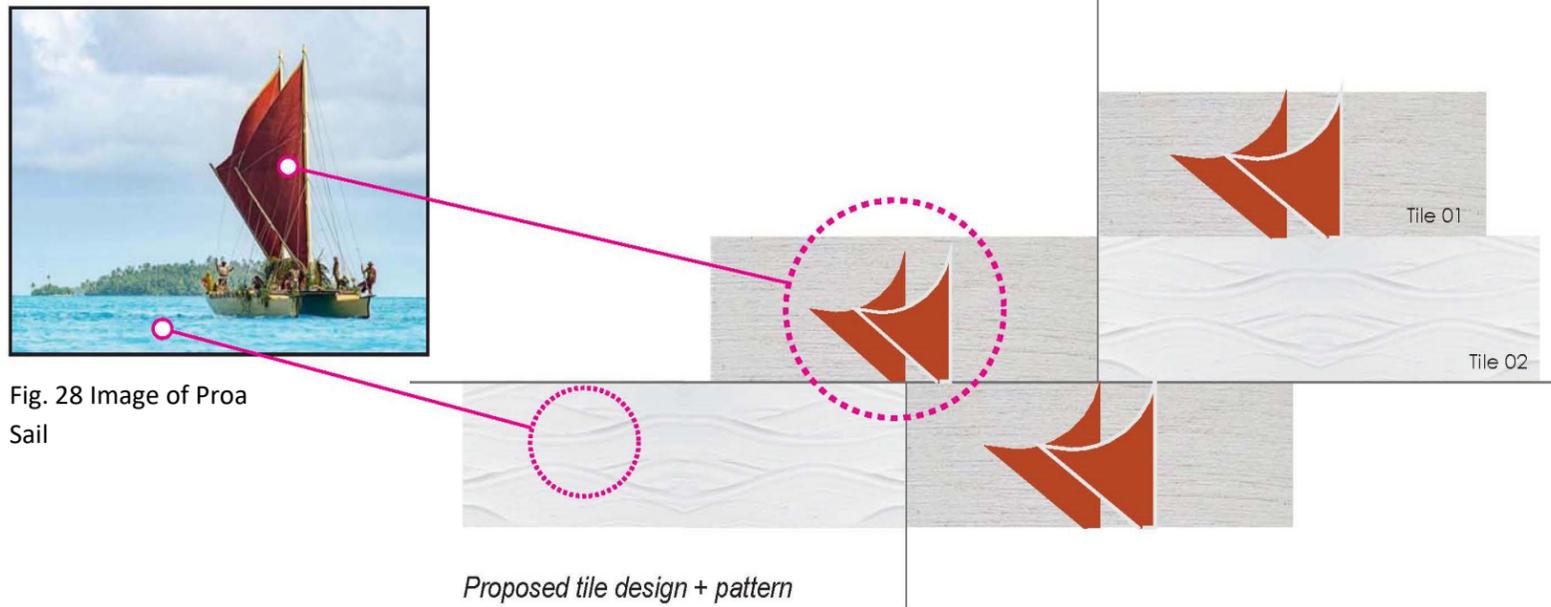


Fig. 28 Image of Proa Sail

Chamorro House

Application: Interior + Exterior wall cladding

Material options: Bronze or copper Metal wall panels, textured concrete finish

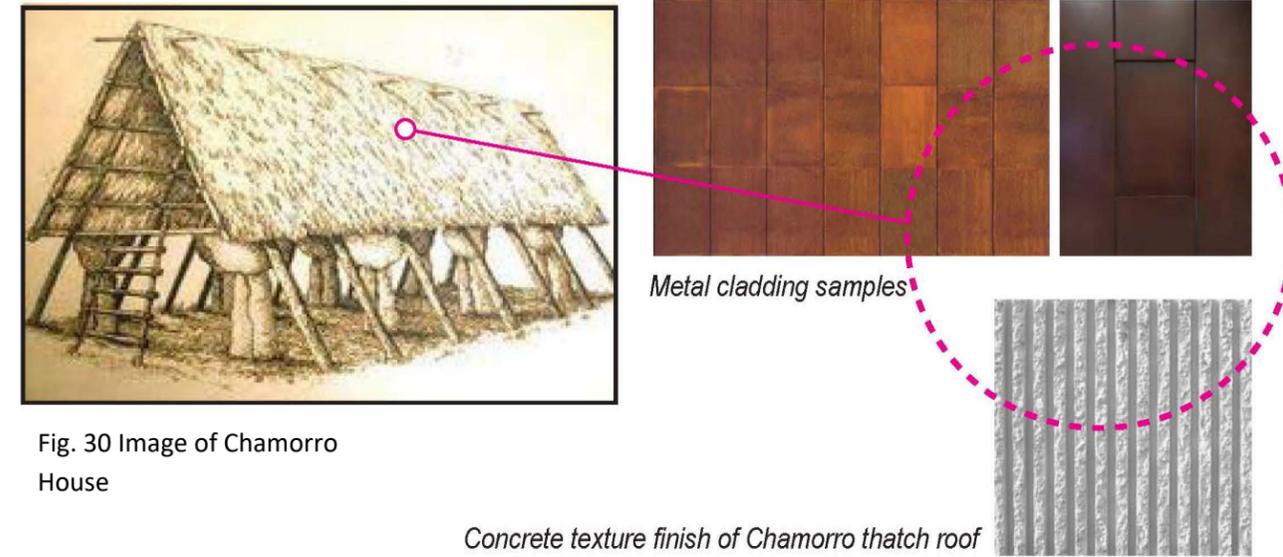


Fig. 30 Image of Chamorro House

Stone Texture (Latte stone, lava rock)

Application: Exterior base stone cladding

Material options: stacked porous stone wall cladding

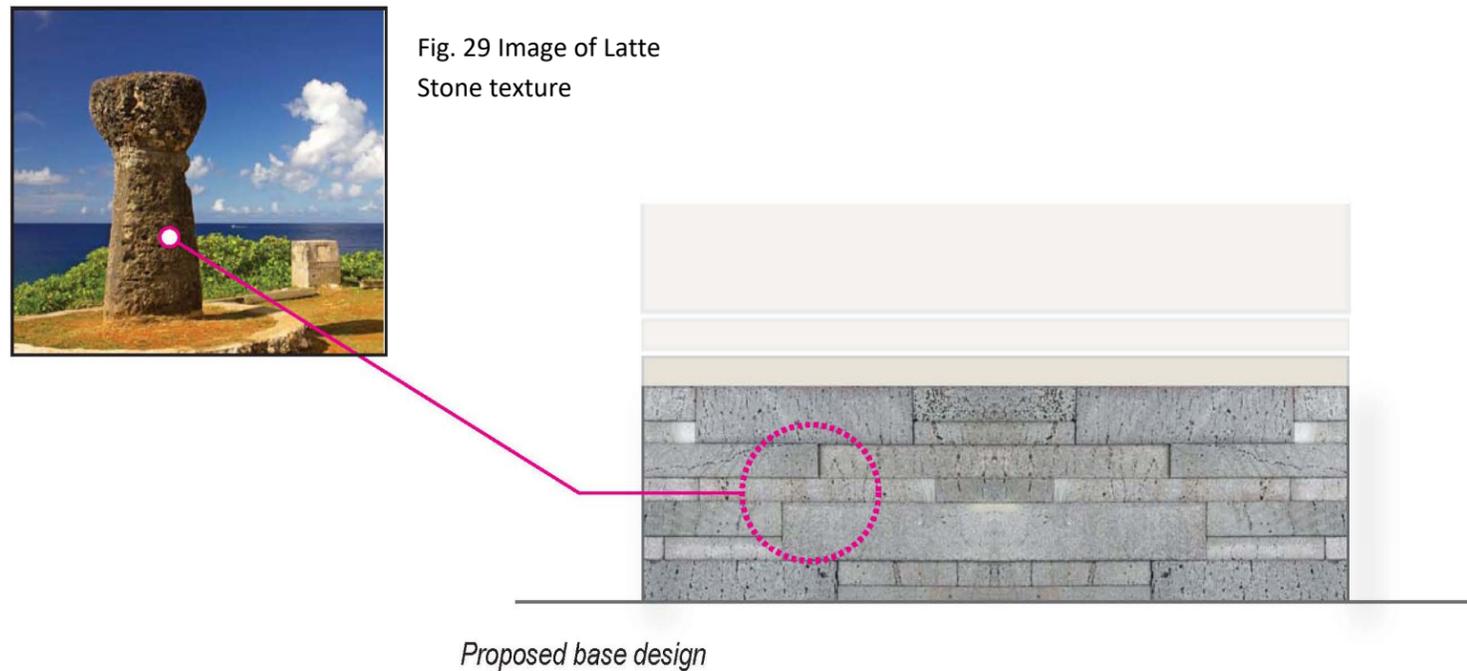


Fig. 29 Image of Latte Stone texture

Chamorro Latte Stone and Proa Pattern

Application: Repetitive exterior tile cladding

Material options: Replicate terracotta color + finish

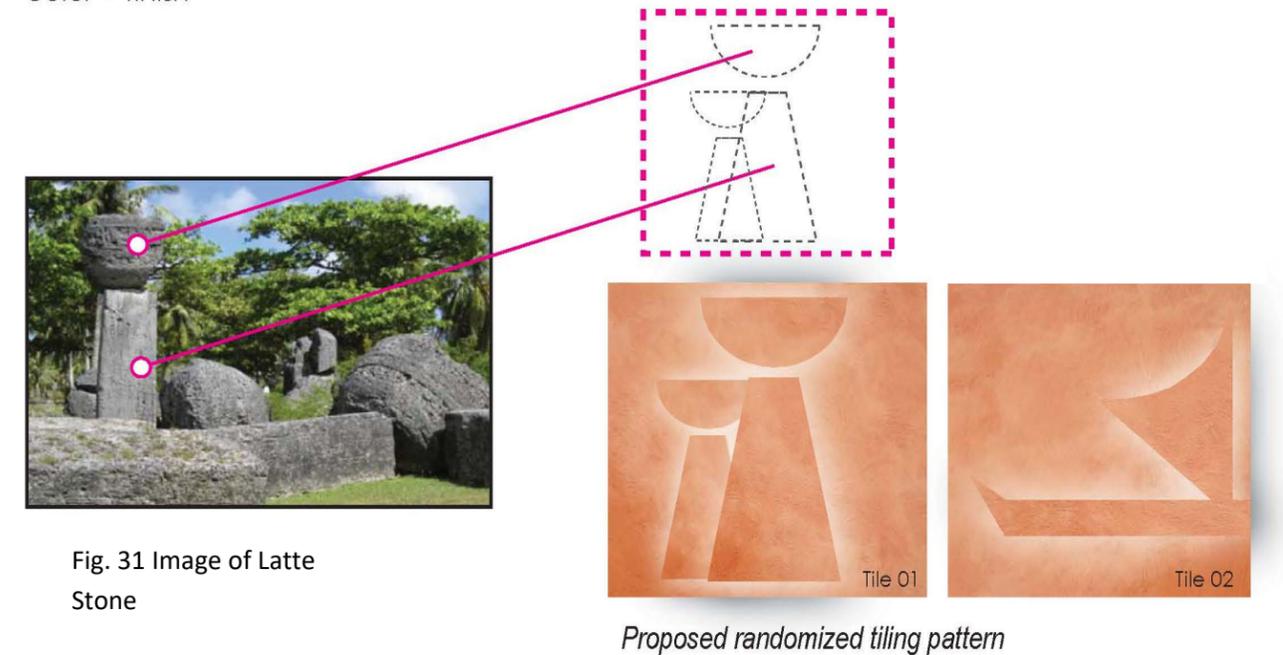
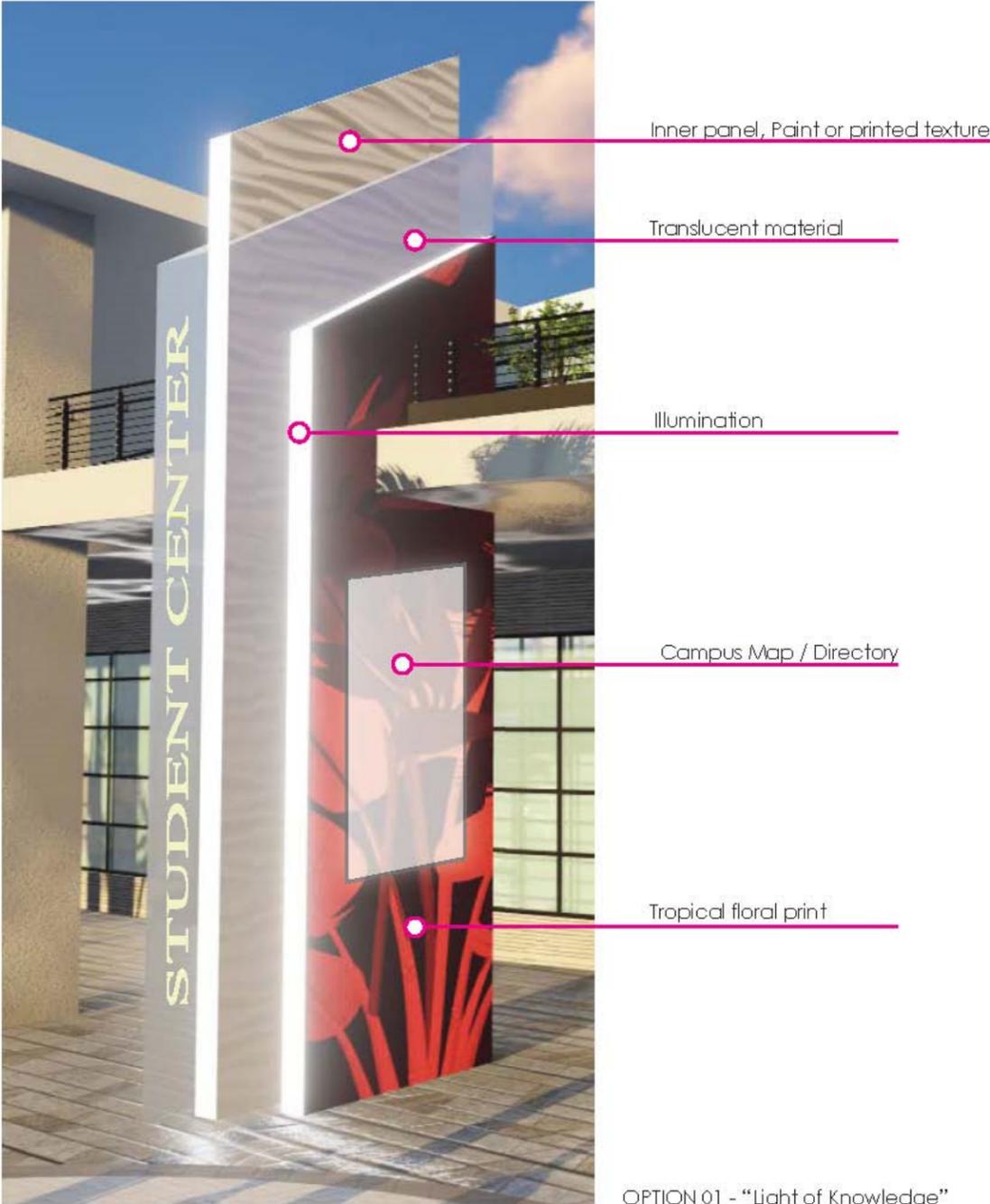


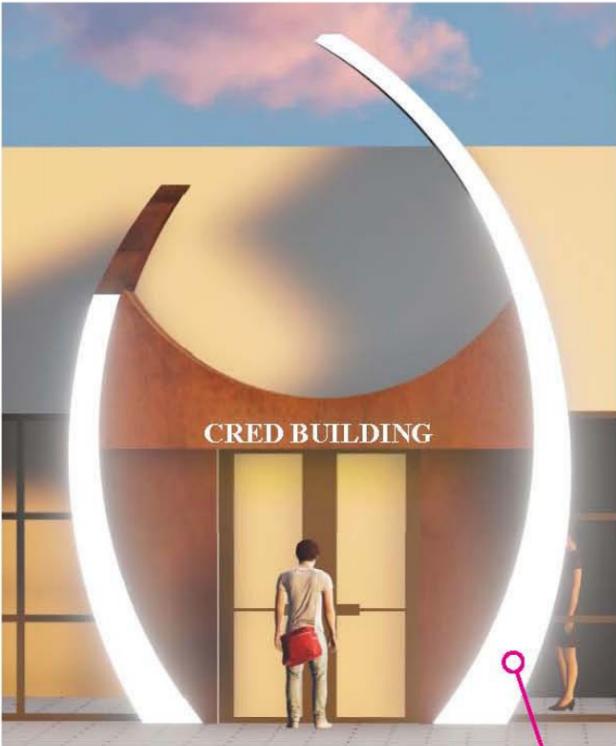
Fig. 31 Image of Latte Stone

H.3 Sculptural building feature and entry portal

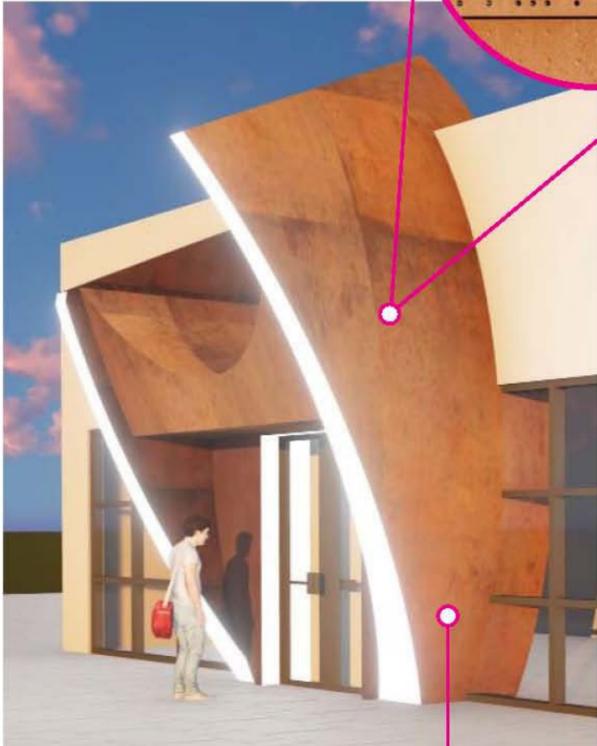
Application: Applied on all buildings as exterior feature or at main entrances
Material Considerations: Pre-engineered "Corten" steel or similar, also known as weathered steel. Concrete with texture finish optional



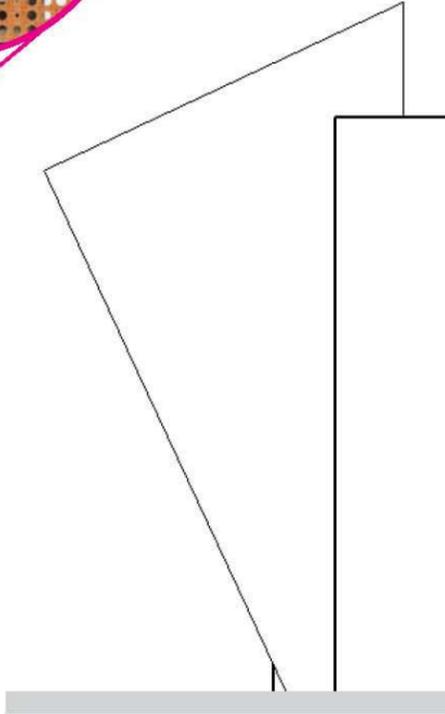
OPTION 01 - "Light of Knowledge"



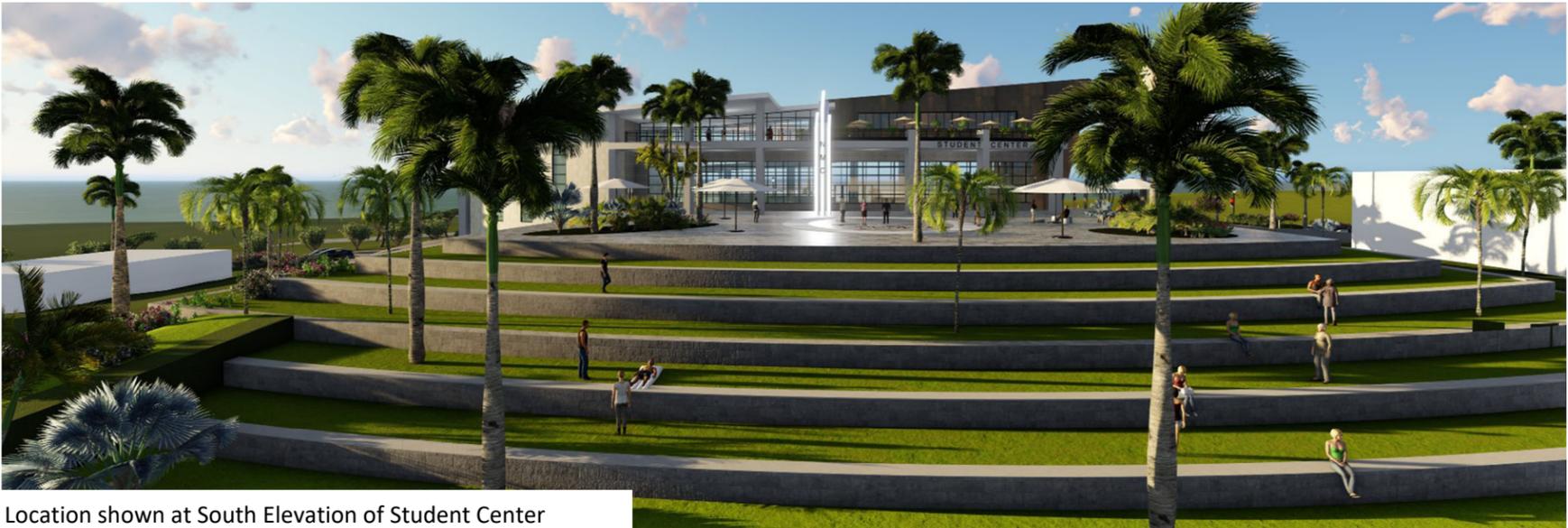
Entry portal Front Profile - NMC Logo
OPTION 02 - Corten Steel



Pre-engineered Corten steel sculpture
Optional to add perforations as shown to illuminate light throughout
Ambient light



Side Profile - Sail



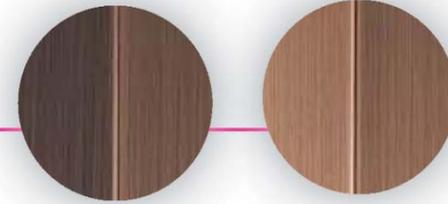
Location shown at South Elevation of Student Center

I. PROPOSED COLOR PALETTE & TEXT GUIDELINES

All text typologies and NMC official color palette shall be followed as defined by the Office and Institutional Advancement (OIA).



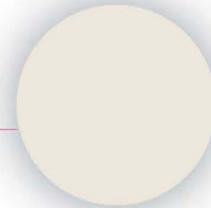
Bronze + copper metal cladding



Corten, weathered steel



Neutral colored wall cladding or paint finish



Concrete texture finish (brushed, trowel)

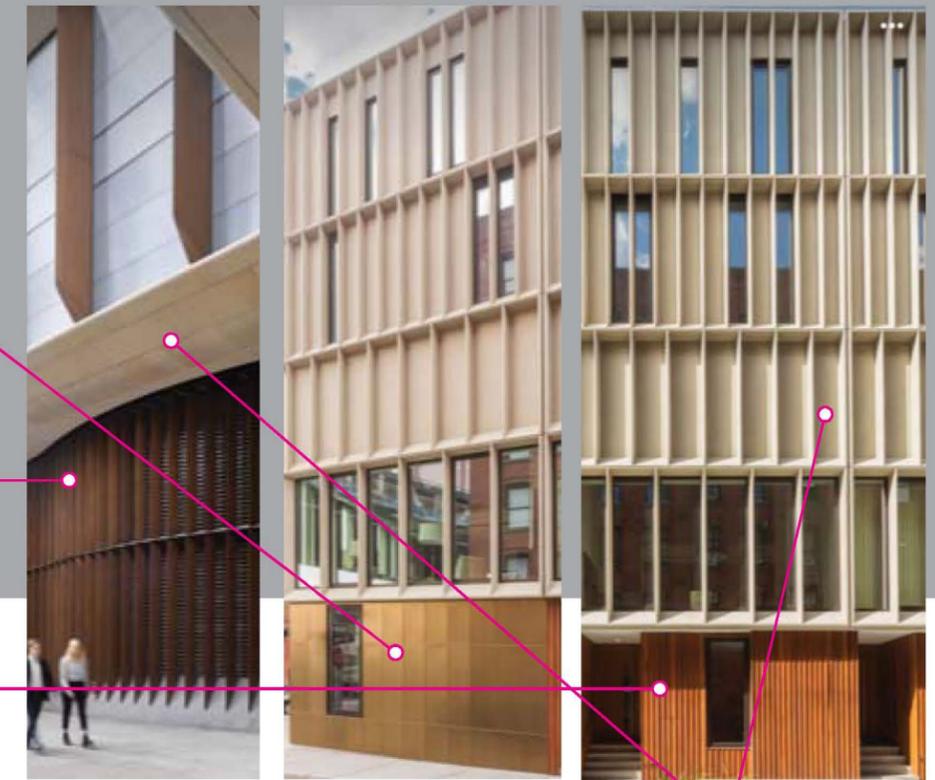


Off white cream Stucco, terracota texture and finish



White paint finish

Examples of material + color composition
Consideration for all buildings



CAMPUS SUSTAINABILITY

The Northern Mariana Islands is a classic example of the type of community for which sustainable design was created.

The CNMI has a limited amount of physical area, and landfill limitations. Additionally, the CNMI has struggled with provisions for potable water and reliable power. Coupled with the ongoing issues with fuel diversification, sustainability for the NMC campus is a must.

In simple terms NMC must reduce the amount of waste that it generates, improve the performance of systems on campus and ensure that the guidelines are in place so materials and systems do not cause damage to the environment.

There are multiple metrics available to benchmark the performance of strategies for energy efficiency and environmentally conscious design and construction methods. The Leadership in Energy and Environmental Design (LEED) is one of the best known programs in the world. Many programs are available under different proprietary brand names however LEED is most relevant to NMC facilities.

LEED has a specific program that can be tailored to the specific issues within the NMC campus.

LEED campus establishes a baseline of credits which can be standalone for the campus and which can be used to assist LEED certification of buildings as they are being designed and brought online.

The philosophy of LEED Campus certification is to identify systems, materials and design that focuses on campus wide elements. From the list of applicable systems, the Planning team will identify 12-18 credit categories that have a high likelihood of success in the application process. From that point any future LEED Building applications can build from the baseline certifications.

Potential LEED credit categories include:

- Site Selection
- Development Density and Community Connectivity
- Alternative Transportation and Public Transportation Access
- Alternative Transportation Bicycle Storage and Changing Rooms
- Alternative Transportation- Light Electric Vehicles (LEV) and FE vehicles
- Alternative Transportation Parking Capacity
- Site Development Protect or Restore Habitat
- Site Development Maximize Open Space
- Stormwater Quality Control
- Heat Islands (non-roof)
- Light Pollution Reduction
- Site Masterplan
- Water Efficient Landscaping

- Rain Water Harvesting
- Onsite Renewable Energy

Several of the categories listed above provide multiple credits. Those will be maximized to the extent possible.

RESILIENCE ON CAMPUS

Resilience on campus involves a variety of strategies all designed to improve the stability of the infrastructure. In its most simplistic terms, it can mean providing a campus with the capability to withstand a variety of disasters (environmental and manmade) and return to a functioning position quickly and efficiently.

For the Northern Marianas College resilience also means having the capacity to assist and provide support for stakeholders return to a condition where they are able and equipped to resume their lives.

In order to optimize the resilience of the campus it is necessary to study issues specific to NMC and to look at the resilience of a physical campus by similar case studies.

RESILIENCE STRATEGY NO 1:

REBUILD THE CAMPUS USING THE MOST CURRENT BUILDING CODES AND BUILDING PERFORMANCE GUIDELINES FOR THE CNMI

The Pre-Soudelor and Pre-Yutu campus buildings were built long before building codes were established in the CNMI.

Knowledge of the performance of building systems and knowledge of the behavior of disasters has grown tremendously over the past 4 decades. Using the latest building code guidelines for architecture, structural, mechanical, plumbing and electrical systems can improve the durability these systems enormously.

Building hardening has been adopted by many emergency response agencies to help buildings mitigate damage from strong winds, fires, earthquakes, loss of power, contamination and explosions (intentional or un-intentional) and other manmade disasters. Current wind load requirements for buildings are:

195 MPH for standard structures

210 MPH for typhoon shelters

RESILIENCE STRATEGY NO 2:

MANDATE DESIGN AND CONSTRUCTION COMPLIANCE WITH ALL INTERNATIONAL BUILDING CODES. (BUILDING CODES ONLY SET MINIMUM ACCEPTABLE CONDITION FOR LIFE SAFETY). BUILDING OWNERS CAN OPT TO EXCEED THE MINIMUMS.

The International Building Codes and ASCE provide a range of performance requirements but ultimately these only set the minimum acceptable performance standards for a building and / or building system.

RESILIENCE STRATEGY NO 3:

WORK WITH EMERGENCY RESPONSE AGENCIES [DEPARTMENT OF HOMELAND SECURITY AND FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)].

Where FEMA and other federal funding is used for design and / or construction there may be obligations or requirements for a building (or buildings) to serve as part of a disaster shelter, recovery facility or as part of an Emergency Operations Center (EOC) Network.

Participating in this program may mean establishing building resilience to a higher level of hardening or having additional equipment capability. (Buildings designed for use as a typhoon shelter must meet 210 MPH wind load requirements.)

RESILIENCE STRATEGY NO 4:

CONSIDER ALTERNATES FOR CAMPUS INFRASTRUCTURE PLANNING EXERCISES AND ACTIVITIES FOR DISASTERS AND THREATS

Provision of more than one or two access points for emergency vehicles.

Provide two primary points of connection for water. Harvesting rain water can provide a third possible resilience water source.

Planning guidelines recommended for resilience for NMC includes having redundant systems. As an example, providing multiple emergency generators and water storage tanks around the campus will improve the ability for some buildings to be brought back online quickly. If utility service for water or power is unavailable the College can be self-sufficient for a period of time. Having multiple emergency generators located across the campus improves chances for the college to restore power to some buildings even if some units are damaged and out of service.

Protecting the campus infrastructure from natural disasters and intentional harm requires continuous vigilance and simulation exercises to identify and assess weaknesses and implement mitigation measures.

Along with a minimum of the three levels of security for the campus inhabitants, NMC should implement security systems to monitor and protect potable water sources from contamination

and fresh air supplies from intentional damage. Exposed condensers and fresh air intakes should be protected and monitored. Shut off valves should have access controls and tracking by the Building Management System.

RESILIENCE STRATEGY 05:

INTEGRATE NATURAL AND MANMADE PANDEMIC AND CAMPUS CONTAMINATION MITIGATION STRATEGIES INTO BUILDING SYSTEMS

COVID-19 was not unforeseen. Consideration should be given to the full range of possible, however unlikely, interruptions to normal campus operations that could occur at any time during the academic year.

Contamination control: Think about reopening and / or return-to-normal procedures, including partial or incremental operations. Establish clarity around who makes the decisions and who informs the decision-maker(s). Have a standing committee, led by a member of the senior administration, who reports regularly on readiness to the President and Board of Regents.

Building systems can be programmed to help monitor and mitigate the effects of man-made and natural disasters like pandemics and on-campus contamination.

Optimizing programs for Indoor air quality improvements with air sanitization treatments integrated into air conditioning systems helps to reduce contaminants in the HVAC systems,

Building Information and Smart systems can integrate direct digital control modules to help isolate spaces or zones and flush systems, sanitize ductwork and report and identify system issues improving indoor air quality overall.

RESILIENCE STRATEGY NO 06:

BEST MANAGEMENT PRACTICES FOR DESIGN AND CONSTRUCTION:

Basics: Build with durable materials that will withstand extreme wind conditions, flying debris and have optimal endurance.

Avoid materials and systems that are overly customized in size and capacity. Overly complex or customized materials create maintenance challenges both in terms of repair capability and availability of replacement parts and service. Systems that are difficult to repair are more likely to fall into long term disrepair or use exposing buildings to failure at critical times, delaying or preventing buildings or systems from returning to operation after a disruptive event.

Air conditioning, ventilation fans and motors, fresh air supplies, compressors, condensers, battery illuminated emergency signs are examples of equipment most likely to fail. These can be integrated with several types of information management systems, providing system monitoring and reporting critical building functions and controls, by assigning isolation and recovery zones into the space programming.

Develop an Indoor Air Quality redundancy and contingency plan.

NMC should incorporate mandates into building construction budgets for consistency, continuity, assurance and compatibility, adjusting as technology and code standards change to integrate pandemic mitigation.

Identification and mapping of systems command for emergencies and an emergency operations system evaluation during prolonged crisis periods.

Establish conditions under which any change in NMC's operations and systems programs require shifting to isolation of containment modes. Training of faculty and staff on interfacing with building information or dissemination is needed.

Establish protocols for receiving-distributing-activating internal and external communications from the start to the end of crisis and the campus returns to normal operations.

Create and regularly review and / or refresh data management and Indoor air hygiene and security plans.

HVAC and indoor air quality for Labs may require regular or annual commissioning of equipment where, storage and / or disposal of volatile or hazardous substances, securing of facilities and decisions about laboratory activities are to be made.

NMC should designate a physical and virtual war room for command-and-control meetings and operations during an emergency. Include campus housing emergency plan.

NMC CAMPUS MASTERPLAN ANALYSIS METHODOLOGY

SURVEY AND ASSESSMENT

- Task 1:** Analysis of the existing programs at the pre-typhoon NMC campus and detailed questions and answer sessions with faculty and stakeholders to uncover functional relationships, strengths and weaknesses, space requirements and hierarchy on campus in terms of physical placements.

The physical conditions assessment of the campus is prioritized in this task and existing and new data is studied.

- Task 2:** Question and Answer sessions are held with faculty, student representatives, stakeholders and campus leadership to define current and projected program goals and identify optimal functional relationships, physical space programs and prototypical layouts for room types.

- Task 3:** Prepare diagrams and concepts showing site plan options along with vehicle circulation, parking, parking garage, infrastructure, utility hubs and reflecting

options for architectural character and configuration, pedestrian circulation and building configurations and hierarchy.

- Task 4:** Overlay the functional, prioritized and / or specialized planning considerations to test the concept's ability to respond to these needs. These considerations include resilience features, pandemic and emergency response conditions, safety, special events and other criteria.

The Northern Marianas College Facilities Masterplan is envisioned as a customized plan for rebuilding the College campus. With that in mind, some research may be performed to consider Best Management Practices (BMP's) and case studies for facilities of a similar size or with similar challenges (isolation, resilience, safety, extreme weather and others) studied. Planning recommendations may be shared with NMC for consideration.

ENROLLMENT OVERVIEW

NMC has overcome the odds and was able to increase enrollment even during the most challenging times in CNMI's history. That is due, in part, to the College's leadership in the community and focus on holistic educational support for the community and going beyond just the single metric of completing degree programs.

The planning team studied the increases to gain understanding of patterns in the enrollment projects. Because of the extreme disasters and pandemic-related challenges the enrollment growth has been unpredictable although it has trended upward in all five years preceding the Facilities Masterplan.

Several metrics were studied to help inform variables in the NMC population and arrive at defensible numbers. Some metrics include study of CNMI High School populations as a factor of enrollment in the College.

Underlying the continued growth during challenging times has been a robust effort by the NMC leadership to attract new students, retain existing students, and keep educational products affordable. An enormous amount of effort has been made to provide support for the community in recovery from the disasters and help the NMC community recover with programs and educational advancement.

NMC FALL 2020 and SPRING 2021 Enrollment by Program					
MAJOR	FALL 2020	%	SPRING 2021*	%	Top 5 Programs
ELI-ELI-ELI	13	1.03	9	0.78	
NONDEG-NONDEG-NONDEG	16	1.26	21	1.83	
UNDER-AA-Bus	41	3.24	39	3.39	
AA LIBERAL ARTS	288	22.77	251	21.83	1
<i>Education Emphasis</i>	57	4.51	37	3.22	
<i>Health & PE Emphasis</i>	14	1.11	13	1.13	
<i>Social Work Emphasis</i>	15	1.19	17	1.48	
AAS BUS ADMIN	162	12.81	154	13.39	5
<i>Account Emphasis</i>	43	3.40	42	3.65	
<i>Bus Management Emphasis</i>	77	6.09	68	5.91	
<i>Computer Apps Emphasis</i>	42	3.32	44	3.83	
AAS CRIMINAL JUSTICE	88	6.96	80	6.96	
AAS HOSP MANAGEMENT	31	2.45	23	2.00	
AS FIRE SCIENCE TECH	1	0.08		0.00	
AS NRM	28	2.21	17	1.48	
AS NURSING	30	2.37	31	2.70	
PRE-NURSING	159	12.57	160	13.91	4
BS BUS MANAGEMENT	173	13.68	157	13.65	3
<i>Accounting Concentration</i>	47	3.72	42	3.65	
BE EDUCATION	231	18.26	208	18.09	2
<i>Early Childhood Ed Concentration</i>	27	2.13	22	1.91	
<i>Elementary Ed Concentration</i>	114	9.01	104	9.04	
<i>Rehab & Hum Serv Concentration</i>	78	6.17	73	6.35	
<i>Special Ed Concentration</i>	12	0.95	9	0.78	
UNDER-CERTC-BLEA	1	0.08		0.00	
Unknown	3	0.24	0	0.00	
Grand Total	1265	100.00	1150	100.00	
Source: NMC student information system, PowerCampus					
Prepared by OIE, 02/05/2021					
*Spring 2021 figures are provisional					

CNMI DEMOGRAPHICS AND VARIABLES USED IN ENROLLMENT PROJECTIONS

The population trends in the CNMI were studied to assess possible effects on NMC enrollment. The Central Statistics Division of the CNMI Department of Commerce was one such resource among many.

Statistics reviewed included the population trends and household profiles. The current population estimates for the CNMI are between 56,608 and 56,800 for 2020. The 2020 Census data was anticipated to be available at the time of this writing but has not been issued to date.

Annual population growth in the CNMI has been slight - trending at less than one (1) % since 2015. Central Statistics Divisions growth rates are:

Calendar year	Percentage of Growth
2015	.66 %
2016	.73 %
2017	.67 %
2018	.57 %
2019	.59 %
2020	.60 %
2021	.61%

Further review of statistical analysis indicates general population estimates begin to trend downward in the CNMI for the 3 age brackets considered relevant for NMC (15-19, 20-24, and 25-29). These age brackets are considered the prime ages for post-secondary engagement on campus.

Provided by Institutional Researcher-NMC Office of Institutional Effectiveness: Headcount for Fall 2020 and Spring 2021.

Population projections

Frequency: Annual • Pacific Island Countries and territories: Northern Mariana Islands • Indicator: Mid-year population estimate
Unit of Measure: units

Time	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Sex												
Age: 15-19												
Male	2,311	2,287	2,292	2,323	2,375	2,442	2,400	2,335	2,246	2,134	1,998	1,960
Female	2,261	2,254	2,258	2,273	2,299	2,335	2,279	2,208	2,122	2,019	1,899	1,862
Age: 20-24												
Male	2,550	2,528	2,474	2,403	2,334	2,285	2,261	2,266	2,298	2,350	2,417	2,375
Female	2,296	2,300	2,288	2,266	2,244	2,228	2,221	2,224	2,241	2,269	2,303	2,250
Age: 25-29												
Male	2,149	2,286	2,393	2,469	2,512	2,523	2,501	2,446	2,375	2,309	2,260	2,236
Female	1,865	1,979	2,061	2,113	2,146	2,167	2,172	2,162	2,145	2,126	2,113	2,108
Age: 30-34												
Male	1,230	1,364	1,543	1,746	1,943	2,112	2,248	2,355	2,430	2,476	2,488	2,465
Female	938	1,014	1,155	1,335	1,514	1,670	1,787	1,873	1,931	1,967	1,993	2,002
Age: 35-39												
Male	1,194	1,132	1,090	1,076	1,104	1,184	1,316	1,494	1,696	1,897	2,067	2,203
Female	1,271	1,137	997	877	807	808	886	1,030	1,212	1,394	1,552	1,671

© Population projections

PDH.stat Data Explorer

Notably age brackets at 25 and older continues the .6% population increase for about 5 years before the trend shows slight decreases reflecting the aging of that age bracket into adulthood and fewer college age populations. Similar patterns are found in other available demographic patterns indicating a slight shrinking in these age brackets approximately 10 years into the future

That same aging trend does continue nearly flat or with mild growth before trending down slightly approximately nearing 2031.

It was also noted that the flat growth or reduction in population was also seen at the U.S. national level as household sizes were trending downward as well.

PUBLIC SCHOOL SYSTEMS GRADUATION RATES AND ENROLLMENT STATISTICS

The CNMI has 12 High Schools. All twelve High School Campuses are considered feeder schools into the Northern Marianas College. There are 9 High School Campuses on the island of Saipan, two High Schools on Rota and One High School on Tinian.

Most campuses had experienced enrollment reductions for the past year with a cumulative average reduction of about 4.5% for the past 5 years. The reduction in enrollment has predictably been exacerbated by the two typhoons and the pandemic challenges in 2020 to 2021.

The High Schools typically graduate approximately 1000 students per year in total and have low dropout rates compared to national standards. A lower-than-average graduation rate is expected for SY 2020-2021 due largely to the challenges of the pandemic. This also follows National Trends. The current estimate for graduates is about 843 students or a reduction of about 16%.

Additionally, NMC receives several students from the region including the Federated States of Micronesia, Republic of Palau and The Republic of the Marshall Islands.

POTENTIAL GROWTH AREAS:

Although the demographic trends show a slight downward trajectory. There have been programs with the potential to increase enrollment in target areas.

International Students: This is a potential growth area as students from Asia, Micronesia and the Pacific region continue to favor NMC and its strong product offerings and connections to U.S. appeals to students.

A subset of international students includes children and dependents of employees on work visas in the CNMI where green card holders may be brought to the CNMI with college age students.

Expansion of, and into, Virtual and Remote Education programs makes NMC courses available to students from outside of the CNMI. Additionally, partnerships with cohorts that offer programs can be accessed on virtual platforms

The 2020 U.S. Census Data was not available at the time of this report, but it is possible that the Census may require modifications or assumptions.

High Schools	1st QTR	1st QTR	1st QTR	2017 Rate	1st QTR	2018 Rate
Da'Ok Academy (DA)	-	-	65	-	44	-33.3%
Dr. Rita H. Inos Jr. Sr. High School (RHI)	207	155	151	-2.6%	146	-3.3%
Kagman High School (KHS)	649	586	594	1.4%	591	-0.5%
Marianas High School (MHS)	1,611	1,664	1,601	-4.0%	1,535	-4.1%
Saipan Southern High School (SSHHS)	805	808	780	-3.5%	737	-5.5%
Tinian Jr. Sr. High School (TJSHS)	188	177	176	-0.6%	164	-6.8%
Total	3,460	3,390	3,368	-0.7%	3,217	-4.5%

Preliminary Northern Marianas College Enrollment Projections Analysis (for discussion)											
MAJOR	FALL 2020	%	Fall 2021	%	Fall 2022	%	FALL 2023	%	FALL 2024	%	FALL 2025
English Language Institute	13	1.03	14	1.05	15	1.06	16	1.06	17	1.05	17
NON- Degree Students	16	1.26	20	1.10	22	1.05	23	1.05	25	1.05	26
UNDER-AA-Business	41	1.05	43	1.05	45	1.05	47	1.04	49	1.05	52
AA LIBERAL ARTS (1)	288	1.04	300	1.04	312	1.04	324	1.04	337	1.04	350
Pre Engineering											
Education Emphasis	57	1.05	60	1.05	63	1.04	65	1.04	68	1.04	71
Health & PE Emphasis	14	1.06	15	1.05	16	1.06	17	1.06	18	1.06	19
Social Work Emphasis	15	1.06	16	1.05	17	1.05	18	1.06	19	1.06	20
AAS BUS ADMIN(5)	162	1.04	168	1.04	175	1.04	182	1.04	190	1.04	197
Account Emphasis	43	1.05	45	1.05	47	1.05	50	1.05	52	1.04	54
Management Emphasis	77	1.04	80	1.04	83	1.04	87	1.04	90	1.04	94
Computer Apps Emphasis	42	1.05	44	1.05	46	1.04	48	1.04	50	1.04	52
AAS CRIMINAL JUSTICE	88	1.03	91	1.03	93	1.03	96	1.03	99	1.03	102
Bachelor of Science											
AAS HOSP MANAGEMENT	31	1.04	32	1.04	34	1.04	35	1.04	36	1.04	38
AS FIRE SCIENCE TECH	1	2.00	2	2.00	4	2	8	1.1	9	1.1	10
AS Natural Resource Mgmt	28	0.99	28	0.99	27	0.99	27	0.99	27	0.99	27
AS Agriculture											
AS NURSING	30	1.06	32	1.06	34	1.06	36	1.06	38	1.06	40
PRE-NURSING (4)	159	1.06	169	1.06	179	1.05	188	1.05	197	1.05	207
Certified nursing assistant			12	1.25	15	1.25	19	1.25	23	1.25	29
BS BUS MANAGEMENT (3)	173	1.05	182	1.05	191	1.05	200	1.05	210	1.05	221
BS courses for Cohort program with UOG											
Accounting Concentration	47	1.04	49	1.04	51	1.04	53	1.04	55	1.04	57
BE EDUCATION (2)	231	1.05	243	1.05	255	1.05	267	1.05	281	1.05	295
Early Childhood Ed Concentration	27	1.05	28	1.05	30	1.05	31	1.05	33	1.05	34
Early Childhood Ed Concentration Certificate											
AS Early Childhood Education											
Elementary Ed Concentration	114	1.04	119	1.04	123	1.04	128	1.04	133	1.04	139
Rehab & Hum Serv Concentration	78	1.05	82	1.05	86	1.05	90	1.05	95	1.05	100
Special Ed Concentration	12	1.06	13	1.06	13	1.06	14	1.06	15	1.06	16
Certificates	1	0.08	0.00				0		0		0
Academies											
uncategorized	3	0.24	0	0.00			0		0		0
Framingham Cohort Partnership											
Community Programs											
Small Business											
CDI											
AHEC											
CREES CRED											
Grand Total	1265	1.045	1322	1.047	1385	1.047	1450	1.044	1514	1.045	1581

Source: NMC

Info built from OIE 2021 enrollment basis -some information is provisional

* Enrollment information from NMC (Pre-Yutu) was reviewed in estimating growth

** PSS Pandemic and post Pandemic estimates for graduation were referenced

*** NMC enrollment has been higher projected in past years

**** NMC will likely experience enrollment growth periods in response to new facilities and services coming online

Variables - "Free College Tuition", Some scholarship and grant programs require FTE

PUBLIC HIGH SCHOOL ENROLLMENT

High School	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Fall 2025
Da'Ok Academy* (DAOK)	-	-	-	-	66	44
Dr. Rita H. Inos Jr. Sr. High School (RH)	170	174	207	155	151	146
Kagman High School (KHS)	636	641	649	586	594	591
Marianas High School (MHS)	1,489	1,500	1,611	1,664	1,601	1,535
Saipan Southern High School (SSH)	841	818	805	808	780	737
Tinian Jr. Sr. High School (TJSH)	162	165	188	177	176	164
Total	3,298	3,298	3,460	3,390	3,368	3,217

*Official new alternative high school as of SY 17-18

ESTIMATED HIGH SCHOOL GRADUATING STUDENTS FOR 2021

Name of High School	2020 Graduates
Da'Ok Academy	29
Dr Rita H Inos High School	38
Kagman High School	161
Marianas High School	335
Saipan Southern High School	120
Mount Carmel	40
Saipan International	20
Grace Christian Academy	20
Agape	20
EUCON	4
Tinian High School	51
Sub-total	838

Schools no longer open:

- * Calvary Baptist school
- * Escuela San Francisco de Borja
- * Marianas Baptist

ENROLLMENT PROJECTIONS

NMC is a unique campus and often the result of actual enrollment runs counter to the expected trend from typical enrollment projections. In the last 5 years the general trend has included spikes in enrollment at periods when regression in enrollment would typically be expected. This can be attributed to several key factors'

1. NMC has robust programs for mitigation and recovery that allows the institution to return to function more quickly than other institutions.
2. The ability for NMC to collaborate with Federal and Local recovery partners to bring resources and funds to the College.

Following devastating events, that may cripple the economy and limit employment options NMC remains accessible to the community with low cost-high value tuition. NMC is able to turn a negative into a positive.

NMC has a well-organized virtual online platform for Student Services and online instruction that has been an instrumental transit alternative.

3. NMC has a well-organized virtual online platform for Student Services and online instruction that has been an instrumental transit alternative.
4. Project PROA was established to identify, provide outreach and recruit High School students. PROA is also able to assist potential students needing support to meet post-secondary performance standards at NMC.

ANALYSIS OF CLASSROOM UTILIZATION

The Northern Marianas College classroom utilization for the period from 2015 onward up to the Fall of 2020 was collected and analyzed as part of the master-planning process. It is well known that NMC faced unprecedented challenges during this time frame, so it is difficult to categorize the data as either conventional or normal. Additional qualitative strategies were addressed in departmental interviews to help establish a baseline for planning recommendations.

The outcome of the analysis has been scrutinized to ensure that use of these results may be reasonably integrated into the planning process. Where conditions or caveats on that usage exist, it is plainly stated.

NMC operated for some time with approximately 40-44 classrooms. Prior to Typhoon Yutu many classrooms had not been utilized due to lack of maintenance. On average only 38-39 classrooms were available for use.

General benchmarks for classroom utilization in colleges are as follows:

Less than 40%	Underutilized.
41%-60%	Low utilization with accommodation potential for growth
60%-80%	Standard utilization range with accommodation for potential growth
80% and above	Classroom utilization is high with little accommodation for growth.

The majority of NMC classrooms were in the low utilization range. The utilization analysis was further challenged with many undersized classrooms. These classrooms were not functioning optimally due, in part, to maintenance issues.

Additionally, it has been noted that several instructional periods were held off-campus, such as the Criminal Justice Program, while others were held out-of-doors in open spaces on campus during the pandemic and typhoon recovery periods.

Patterns also surface as community-based programs such as CDI has high percentage of classroom utilization. This high use occurred when classes were held on weekends and after 5 pm. CREES programs have also experienced growth in youth and outreach programs with events for their Family, Community and Youth Development program.

Office of Student Affairs and Leadership (OSAL) is another small but robust program that has experienced steady growth in campus activities throughout the years. OSAL has need for a variety of gathering and event spaces for student groups and organizations.

CAMPUS CAPACITY

5-YEAR HORIZON

Projections for NMC student enrollment growth are tied to the recovery effort in the CNMI from the Typhoons and the recent Pandemic.

Growth in enrollment is expected to increase above the conventional (conservative) 6% calculation as the new facilities are built and opened as early as early the end of 2021.

The multiplier effect is expected to add on campus growth projections in the next 5 years. The education trends to bring / expand High School-College hybrid programs is favored in the current U.S. Administration. Funding and other support for affordable post-secondary education programs would favor NMC's programs and have the potential to increase student headcount on campus and ultimately in degrees conferred.

The post-pandemic trend is for students to seek post-secondary education closer to home in the next 2-5 years.

Off-Island colleges have had unprecedented skyrocketing costs which makes NMC students best education investment and potentially spur enrollment growth.

10-YEAR HORIZON

Hybrid learning models will continue to grow with virtual and in-person education facilities.

THE POST DISASTER CAMPUS DEMOLITION PROGRAM

Typhoon Yutu demolished 12 campus buildings which had been deemed unsafe structures. The buildings suffering the most significant damage tended to be those with concrete unit masonry (CMU) wall construction, wood timber roof framing and metal roofing.

To determine the optimal number of replacement buildings the Planning team first looked at current enrollment projections to establish the recommended number of classrooms.

Concepts for clustering of instructional spaces were then studied to properly group instructional and support spaces starting with the schools with the largest enrollment.

PROPOSED FACILITIES MASTER PLAN PROGRAMS & ACTIVITIES

- Development Parameters
- Development Concept
- Development of a Concept Master Plan

NMC PLANNING ASSUMPTIONS

A Development Program, Proposed Staging and a Preliminary Assessment of Costs in order to implement the Facilities Master Plan (FMP)

- PROJECT INITIATION
- REVIEW NMC INFORMATION
- STRATEGIC PLAN
- PRIOR STUDIES
- NMC NEW CAMPUS VISION
- PREPARATION OF CAMPUS STANDARDS
- EXISTING FACILITY ASSESSMENTS

DEVELOPMENT CONCEPT FOR THE NORTHERN MARIANAS COLLEGE

On the macro level, the Development Concept for the Northern Marianas follows the most current planning methodologies and includes viewing the NMC campus as a Central Planning feature of the As-Terlaje and surrounding neighborhood. The connection of the campus to the surrounding areas intended to provide a focal point and inspire revitalization as the nearby

businesses and properties can provide support services, commercial ventures and housing units to support the College.

Concepts are included in the Masterplan to help visualize how the surrounding area can be improved with landscape, street lighting, pedestrian friendly businesses and improved sidewalks and storefronts.

There is a long history of the symbiotic relationship between college campuses and their surrounding neighborhoods. That helps raise property values as the college provides consumers for businesses.

As a logical magnet for mass transit (COTA), the College can support businesses and their employees, including food and beverage, outpatient clinic services, supply stores and others. Recreational activities such as walking, jogging and sports activities can branch out from those provided on campus and nearby streets.

DEVELOPMENT PLAN

Within the campus boundaries the placement of buildings, walks, amenities and indoor and outdoor gathering spaces are designed along a series of network hubs that support multi-use activities across the campus.

Multiple on-campus food and beverage locations of varying scales are envisioned, along with outdoor covered spaces with seating and campus wide connectivity to encourage student activities-individual and grouped across the campus.

The Quad is the primary organizational element of the campus, focusing the larger and more prominent spaces along the edges. The Quad defines the character and aesthetics of the College and serves as the heart of the College. As the primary activity hub, the Quad is the primary location to display the priorities and personality of the campus. The Quad will include artwork, interpretive signage, graphics and iconography of an inclusive culture and provide multiple ways to display and practice activities like dance, song, festivals, parades and more. A variety of indoor and outdoor spaces and convenient covered walkways are provided.

NORTHERN MARIANAS COLLEGE MASTERPLAN

NMC PLANNING GUIDELINES AND PRINCIPLES

ROTA TEACHING FACILITY PLAN

TINIAN CAMPUS MASTERPLAN

EXISTING FACILITIES AND PROGRAMS AT THE NORTHERN MARIANAS COLLEGE

EXISTING FACILITIES (PRE-TYPHOON YUTU)

A multi-pronged approach was undertaken to build the program for the masterplan

A short-form analysis of portions of the older campus – buildings that may have been demolished are still included in the analysis to identify what worked well within the older campus and what did not. This step provides a reference point for intelligently determining optimal classroom utilization and is used as a baseline for comparison and to gauge the level of service and amenities being proposed for the new campus.

- Analysis of the classroom instructional space count for the campus from Fall 2015 to recent years, considering the effects of Typhoons Soudelor and Yutu along with the pandemic to help generate optimal planning recommendations.
- Several problems with instructional spaces were identified quickly and repeatedly for the pre-typhoon campus. These included congenital problems with small classroom sizes, configurations, overall condition, aging equipment and inflexibility.
- The small classrooms necessitated additional instructional sessions in order to accommodate the course enrollment.
- It is worth noting that the intimate classroom setting was identified as a desirable trait for the faculty and set it apart from the impersonal large classes often found stateside.
- In discussions it was clarified that size of physical classrooms is intended to accommodate a wider range of activities and seating arrangement flexibility not necessarily to increase headcount in a classroom.
- Further, the flexibility of larger classrooms can also assist if events like the pandemic are repeated.
- The classroom sizes and configurations result limits to how instructional spaces can be equipped and the aged condition resulted in a generally poor learning environment.

The Planning team studied and included “Forward Campus” strategies that highlight energy efficiency, smart growth, interactive building systems and carry over provisions for melding the virtual instruction platforms into instructional space design helping to evolve the “bricks-and-mortar” regimen.

CLASSROOM UTILIZATION

Analysis of the classroom utilization before Pre-Soudelor / Pre-Yutu events was performed to establish a baseline for classroom use.

The analysis found, that on average, there were approximately 38 general classrooms in use on campus during most semesters.

In addition, instructional periods were held in the Gymnasium until the building was damaged by Typhoon Soudelor.

In the analysis, the classroom assignment schedules were reviewed. Some modifications were implemented – usually to improve clarity of the classroom utilization. As an example – the schedules provided general classrooms availability starting at 6:00 am with the final class of the day ending at 9:30 pm. The classroom availability was assumed to start at 7:00 am instead of 6:00 am. Two ranges were run to determine classroom utilization, one based on a 14- hour day and the other a 12-hour day.

It is understood that several classes are held in the evenings as part of NMC’s effort to support students who work and have other daytime obligations that prevent class attendance during the day.

PANDEMIC INSTRUCTIONAL HOURS

Reviewing the classroom space demand during the pandemic provides similar findings with the recognition that online teaching increased the instruction time but, not the classroom demand.

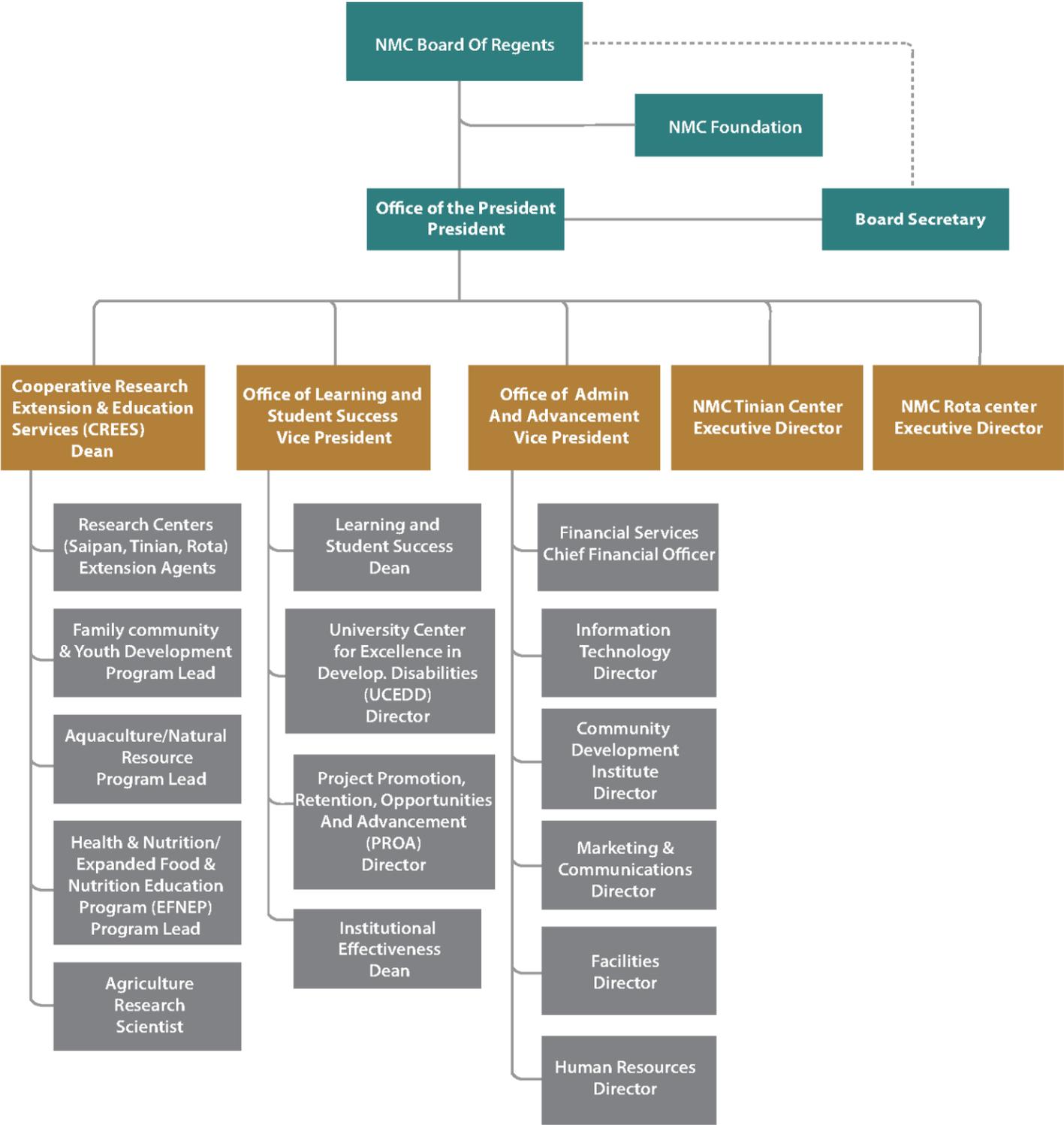
NMC EXISTING ORGANIZATION

The original Northern Marianas College Campus repurposed from a healthcare facility circa 1991 has struggled to achieve optimal instructional space through the years.

Analysis of campus use through 4 decades showed consistent challenges in providing optimal educational spaces in the old facilities. Additional effort was necessary to provide usable instruction space in the small and aged buildings. Despite this, prior surveys did indicate satisfaction with the effort of the faculty and administration to improve the instructional environment and amenities.

A set of questionnaires was prepared specifically for each of the of the primary Departments. The surveys were introduced during interviews and reviewed again at a focus group level in order to determine specific programs and information about the space requirements of each Department.

Compared to prior the previous Facilities Masterplan surveys these were tailored for a direct link to action items as compared to a generalized satisfaction survey.



Northern Marianas College
Organizational Chart Provided by NMC

REVIEW OF DEGREE PROGRAMS

SCHOOL OF EDUCATION

“The mission of the School of Education is to promote the science and art of teaching, research-based pedagogy and assessment, and assisting stakeholders to improve their quality of life, while recognizing regional and global diversity in a changing world by providing quality programs and services for aspiring and veteran professionals in Education and Human Services in support for the Northern Marianas College mission.”

The School of Education has enjoyed consistent growth and stability over the past decade and continues success with employment into the education system in the CNMI and beyond. The School of Education is the second largest program at the College and is organized around four emphasis areas with a wide enrollment range between the different tracks. Steady growth is anticipated for the program within the 5-year and 10-year horizons.

The program consists of 4 Emphasis Areas:

Elementary Education	9% of overall enrollment	115	students
Rehabilitation	6% of overall enrollment	75	students
Early Childhood Ed	2% of overall enrollment	25	Students
Special Education	1% of overall enrollment	10	students

PROGRAM SPACES

SCHOOL OF EDUCATION	Quantity	Area	Description
Classrooms	14	900	12,600 +5,040 sf (common area)= 17,640 sf
Labs	3	1,000	3,000 sf +1,200 sf (common area) = 4,200 sf
Dedicated Labs- SPED, Daycare	4	1,000	4,000 sf
Faculty Office	10	10 x 10	1,000 sf + 400 sf (common area) = 1,400
Adjunct Faculty Office	5	8 x 10	400 sf +
Private Meeting Rooms	2	12 x 12	288
Dept Chair Office	1	12 x 16	192 sf
Dept Office Storage	1	9 x 18	162 sf
Conference Room	1		

The School of the Education has several specialized program components to accommodate the early learning programs, daycare and special education Lab spaces. These spaces are customized and will be dedicated for those programs

Additionally, the School of Education program requires convenient proximity and access to A drive thru drop-off / pick-up area for Early Childhood Labs, crawling area and interior and exterior play areas for Daycare.

Dedicated bathrooms (family style) are also necessary for early learning, Daycare and SPED programs. Sinks and cold storage space (refrigerator), eating and food prep space, microwave wall- mounted at counter height or above, cubbies or shelf storage for kid's bags, diaper changing stations breastfeeding room, gated and fenced playground and child-sized furniture is needed.

Growth in enrollment is anticipated in all Departments and in each of the four (4) concentration areas.

Prior to the Typhoons the school of Education was consolidated into a cluster in one building. Due to the nature of some of the Labs and activities this is still a priority for the school.

An Early Learning Lab will require a secure outdoor playground space.

Program spaces must comply with Health and Human services standards for early learning spaces.

SCHOOL OF BUSINESS (MANAGEMENT AAS IN BUSINESS ADMINISTRATION)

The outlook for Bachelor of Science in Business Management and the Associate of Applied Science in Business Administration is for steady growth as was the case for the years preceding the typhoon and pandemic challenges. The business and economic outlooks for the CNMI are positive with Federal Assistance for the rebuilding efforts and other programs to diversify the business climate on Saipan. Optimism about economic growth is driving the business community's call to build capacity for both the Business and Business Administration Programs with a four percent (4%) growth in enrollment for the 5-year horizon.

The Bachelor of Science in Business Management and the Associates of Applied Science in Business Administration programs are 3rd and 4th respectively in terms of student enrollment.

BS Business	14%	173 Students
AA Hospitality	2%	26 Students
AAS Business Admin	13%	162 Students

AA in Business 3% 40 Students

Planning and analyzing the student head count helps to determine the number of Classrooms, Labs, Offices, and other support spaces needed to accommodate the program.

The combination of reasonably anticipated *growth* of each program as well as the NMC's targeted strategies to grow program enrollment are considered together in making recommendations for master planning.

Master planning strategies typically consider the median growth projections.

There are 3 emphases in the Associate of Applied Science in Business Administration Program:

Accounting	3.6%
Business Management	5.9%
Computer Applications	3.8%

Similar to other NMC programs challenges with the Pre-Yutu classrooms existed with undersized spaces, growing maintenance problems forcing instructional periods into compromised spaces and time slots. This generated issues for scheduling and forcing additional instructional scheduling to accommodate student needs while still in compromised Classrooms.

General purpose classrooms typically clustered to the extent possible for efficiency and convenience.

Optimally Lab spaces should be intentionally and strategically located in proximity to the Departments they serve, where possible. Reasonable proximity between Faculty Offices and Classroom cluster is desirable.

Dedicated classroom and Lab spaces are programmed depending on the needs of the course School of Business's needs. Beyond that general purpose classrooms will be the standard.

Flex classrooms and multi-use spaces are incorporated to expand activities when needed.

Growth in the faculty at School of Business to pre-typhoon and pre-pandemic levels is anticipated.

LIBERAL ARTS

The Liberal Arts Program focuses on providing students with the foundation to be a life-long learner and link education to improving quality of life. The Liberal Arts program provides students with broad introductory knowledge and skills.

The Liberal Arts Program includes emphasis tracks with almost 23% of students enrolled in one of the emphasis programs below:

Associate of Arts in Liberal Arts with an Emphasis on Education

Associate of Arts in Liberal Arts with an Emphasis on Health & Physical Education

Associate of Arts in Liberal Arts with an Emphasis on Social Work

Associate of Arts in Liberal Arts with an Emphasis on Pre-engineering

Liberal Arts program is the largest program currently at the college and provides coursework for declared Liberal Arts Degree students as well as students from most of the other degree programs.

A majority of non-degree seeking students are also enrolled in many Liberal Arts courses. As an example, Science, Health, Math, Athletics, Language and Humanities, Social Sciences and Fine Arts serve all the degree programs as well as being standalone classes for undeclared students.

Previously, Classrooms for Liberal Arts courses were spread out over the campus to wherever classroom space was available. That created challenges for faculty when setting up equipment and special furnishings, etc.

Liberal Arts courses will utilize majority of the general-purpose classrooms. Faculty offices are planned to be within the same complex or nearby, if possible, to allow faculty to move quickly to classrooms and to provide easy access for students seeking guidance or meeting with faculty.

On average there are approximately 275 AAS Liberal Arts students enrolled- almost 23% of the enrollment. Using an ideal Classroom size of 25 students per period there may be as many as 11 classes for Liberal Arts courses running often concurrently, in an instructional day.

LIBERAL ARTS PROGRAM SPACES (Science, Math, Health & Athletics)

- 16- Classrooms-900 sf or larger
- 3- Dedicated Lab spaces -Science, Math and Health
- 1- Computer Lab
- 2- General Lab Spaces
- 1- Lecture space
- 8- Full time Faculty Offices
- 6- Adjunct Faculty (to be verified)
- 2- Work space for 2 Administrators

1- Department Chair

In addition to the AAS Liberal Arts Degree students, the program also includes non- AAS Liberal Arts Students adding another 50% to the classroom load. The Liberal Arts Department may be using as many as 16 Classrooms during a peak period.

AAS NURSING

The Associate of Science in Nursing, Pre-Nursing and Certificate program for Nursing Assistants programs form the fourth largest program at the college and is targeted for growth based on well-known community needs in the CNMI and surround region.

In pandemic and other challenges in the past years that have highlighted the need for nutrition and wellness programs for students along with basic health services and counseling. This may include fundamental services like vaccinations and similar health maintenance services.

As expected, the Nursing Program requires that many of the classroom spaces and Labs, and in particular Simulation Labs, are specialized spaces and not easily utilized by other programs. This optimal layout for the nursing instructional spaces mimics healthcare settings. There are similarities with Biology and Science Labs which can be explored

PROGRAM SPACES

- 1- Nursing Administration Office
- 2- Department Chair Office
- 4- Faculty Offices

- 1- Large Conference Room
- 1- Simulation Lab
- 2- Standard Nursing Skills Lab
- 1- Medical Equipment Storage Room
- 1- Instructional Supplies Room
- 1- Nursing Resource and Computer Lab
- 4- Dedicated Classrooms

- 1- Restrooms per Building Code
- 1- Office Supplies and Equipment Storage Room
- 1- Faculty Lounge

AAS NATURAL RESOURCES MANAGEMENT

The Natural Resources Degree Program enrollment has been reassessing itself in the past year. The value of the program is recognized; however, the program has been at or below the status quo for the past year. Graduates from the program continue to procure employment in their careers, however the demand is not as high as that seen with other programs.

Possibilities include transitioning into a 4-year program, seeking a cohort arrangement with a partner institution.

AAS CRIMINAL JUSTICE

The program provides an Associate in Applied Science in Criminal Justice and prepares students for careers in law enforcement or for higher degree programs with affiliated schools.

The Criminal Justice Program currently provides approximately 8% of the student enrollment. Because of the diverse range of employment opportunities accessible to graduates and the steady growth in the need for law enforcement personnel the program is anticipated to grow steadily over the next 5 years at a healthy pace of about 2% to 4% per year. The program continues to have support for the Legislative and Executive branches of the Government as law enforcement issues in the region have expanded.

The program relies on adjunct faculty and has maintained enrollment despite the setbacks in the NMI.

The Department hosts ongoing certification and continuing education programs for Law Enforcement personnel who have benefitted the College and has potential for revenue enhancement.

The Criminal Justice Program is having success with efforts to expand through partnerships with cohorts in the region and is graduating its first students from the programming.

Additionally, the program has been able to fill gaps for physical space needs by sharing space with the actual Department of Public Safety which have training equipment software and programs that are made available to students.

PROGRAM SPACES

- 6- Classrooms, predominately general purpose
- 2- Flex space for physical activities -shared with the Gymnasium
- 3- Faculty Offices
- 3- Adjunct Faculty

For the Fall of 2020 the program had approximately 150 students that were evenly distributed in 1st year (75 students) and 2nd year (75 students) classes.

The program additionally hosts a robust adult education and continuing education certification program, one of the most prominent is the Police Academy (Basic Law Enforcement) and Fire Academy. The program is also looking at expanding into related careers including, but not limited to, Transportation Security Administration, Customs and Border Protection.

Prior to Typhoon Yutu the program regularly utilized about 6 classroom instructional spaces that focused on Law Enforcement instruction. Law enforcement coursework starts with first year students in the program alongside general College classes.

The classroom spaces could be conventional Classrooms; however, the Labs would need space for equipment related to the program and storage for that equipment. These are good candidates for flex Classrooms as instruction often includes local law enforcement officials in instructional settings. The program has a physical training aspect so proximity to the Gymnasium is highly desirable. A dedicated Physical Training Room with Storage and mat space for activities is desirable. It can be shared with similar programs for fitness or self-defense training.

Alongside the program for physical training the students would need access to showers and locker space.

AAS IN HOSPITALITY MANAGEMENT

The Associate of Applied Sciences for Hospitality Management has similarly experienced a lot of fluctuation in enrollment as has the Tourism Industry in general since 2015 and during the pandemic.

As a staple of the CNMI economy the Hospitality Management Program is anticipated to grow at about 4% for the 5-year horizon as the industry rebuilds.

The faculty is a combination of a core full time and adjunct faculty.

Students in the program include coursework in language and English courses to support and build their skills, both to learn languages relevant for the Hospitality Industry and for ESL students to improve their English skills.

The program currently has just fewer than 40 students and is anticipated to grow steadily for the 5-year horizon

LANGUAGE AND HUMANITIES

Similar to Science, Math, Health and Athletics, the Language and Humanities programs are a backbone of the instruction, and most students get a healthy dose of courses during their tenure at the College. Languages and Humanities (is one of the largest non-degree programs on campus). All classes are taught online.

PROGRAM SPACES

9- Faculty Offices	7 current plus 2 vacancies
1- Program Coordinator Office	English Lab
1- Space for Admin Manager Office	

1- Department Chair Office

Typical class sizes for Humanities are large: Eng. 101, ENG 202, Literature, Speech, Foreign Languages, English Language Institute, in particular for all courses under 101.

Speech class was housed in Bldg. D-1 which held 40-50 students. Current online class numbers are about 20-25 reflecting challenges for students access in the program.

After Building D-1 was taken offline, K-1, K-2 & J-1 & J-2 were the replacements – these Classrooms can hold 30 students each.

There are several classes / classroom Levels below 101

4	Level 70 (71, 72 and 74)
1-	Level 80
2-	Level (92, 95)
1-	Incorporate their English Lab

Prior to Typhoon Yutu, Speech & Language classes were larger than the current online size of 20-25 students. The replacement classrooms in use (K-1 and K-2, J-1 and J-2) are the largest classrooms available.

Other large Classrooms have a divider (i.e., in class D-1) that can subdivide spaces to accommodate smaller groups. Accommodating 80-85, mostly non-degree students, is possible.

Prior to Typhoon Yutu the program had an English lab with 20 computer stations and a separate space for 1-1 tutoring.

Workspace: The program requires workspace for students to do assignments and use resources as many lack proper space and settings away from campus.

The workspace was utilized all day because it served below 101 classes (i.e. English 85) Monday – Friday and open on Saturdays. The tutoring program includes 4 Tutors who alternate. 2 work mornings and 2 work afternoons. Tutoring is expected to grow to 3 per session. This Fall the Tutors worked through Zoom and no Labs were active.

Activity tables would typically be full i.e. in Lab resources and activities include:

- Reading comprehension
- SRA's
- Reading comprehension sheets with sections
- Writing assignment books
- Listening programs for computers

Lab hours are from 7:00 am to 7:00 pm and are busy all week. Labs also open from 9:00 am to 12:00 pm on Saturdays. Areas are required for Non-Degree Units (NDU).

ESL and International students who are learning English may be required to have more Lab time (Lab levels at the 70 and 80 courses) in order to gain proficiency. Listening Lab activities require acoustical controls and convenient monitoring by faculty and proctors.

College level students will not have access to these Labs. Project Proa works with the Educational Enrichment Center

Typically, the faculty has their own office space and conduct advising in addition to teaching. They meet with students regularly. Space for a desk and bookshelves is needed.

SCIENCE MATH HEALTH AND ATHLETICS

The Science, Math, Health and Athletics programs are the backbone of the College along with English, Languages and Humanities. Almost all students, whether in degree programs or not, will spend a good deal of class time in these programs. Along with other general College requirements the courses will occupy a majority of the general-purpose Classrooms

COOPERATIVE RESEARCH EXTENSION EDUCATION SERVICES (CREES)

The cooperative Research and Extension Educations Services is composed of several laboratories and research work areas that focus on 4 primary areas- community health and nutrition, agriculture and aquaculture, youth programs and community education.

The physical space needs for the CREES program are quite large. It was determined that some of the program components would be best served by placement off-campus to align with needs. An example is to have components of the aquaculture and hatcheries / fisheries for shrimp located off campus and close to natural waterways.

FACULTY

The program hosts training and community education events throughout the year to provide guidance for farmers and livestock ranching with information about technologies that improve agricultural efforts and build crop resilience. In addition, the laboratory and propagation efforts provide agricultural seedlings and stock to local farmers.

CREES efforts extend into youth programs with 4-H, summer camps, and nutrition outreach to young students.

The program spaces for CREES are large.

FCYD SPACE PROGRAM

- 1- Requests a workshop space (currently leasing space from hotels for events)
- 1- Community town hall meetings or engagements (currently held off campus at social halls, etc).

- 1- Requesting tech capabilities, data WIFI devices, etc. to support interests from children
- 1- Multi Use / Multipurpose space also functions as a camp space for as many as 80 students, with recreational activity space both indoors and outdoors
- 1- Workspaces for 4 Saipan staff
- 2- Workspace for 6 program assistants

AGRICULTURE AND NATURAL RESOURCE PROGRAM

- 1- New Plant Bio-Technology Laboratory 1,400 sf
- 1- Plant Biotech Office 01
- 1- Plant Biotech Office 02
- 1- Entomology Laboratory 560 sf
- 2- Storage
- 1- Reception
- 1- Entomology Lab Office 01
- 1- Entomology Lab Office 02
- 1- Food Science & Product Development Lab 600 sf
- 2- Food Science Lab Offices
- 1- Anthropometry Laboratory 1,130 sf
- 2- Anthropometry Lab Offices
- 1- Multi-Purpose Room w stadium seating 2,275 sf
- 2- Plant Cloning (largest facility)
- 1- Temperature, lighting and humidity controls
- 1- Aseptic Technology, with controlled temperature light and humidity
- 1- Media Preparation Room, for up to 100,000 plants
- 1- Chemical Storage Room (some chemicals are toxic; others may be flammable)
- 1- Sterilization Room
- 1- Sterile Discarding Room
- 1- Glassware Sterilization
- 2- EPA is a regional plant facility – genetic modifications – disease resistant Lab
- 1- Special hardening and field research station, Greenhouse and Nursery
- 1- Properly colony facility needs to be large
- 1- If they pursue a larger grant and it is approved, then they will have 5 to 10 people working in the Lab
- 1- Separate from people in the Nursery and Greenhouse - glass-built Greenhouse with built-in systems
- 1- Sample plants are tiny
- 1- Plants are slowly raised-25' x 25' Grow Room 625 sf
- 1- Greenhouse is 5 times larger than the Grow Room. 3,200 sf
- 1- Nursery 3,200 sf

ADMINISTRATIVE OFFICES PROGRAM SPACES

- 1- Workstation for Admin unit
- 1- Additional staff are anticipated so workstations for them should be included
- 1- Office for the Dean
- 1- Small Conference Room for up to 10 people. Larger meetings can be held in Multipurpose Rooms.
- 2- Work Room for compiling booklets, pamphlets, etc.
- 1- CREES does have non-conventional campus hours and works on weekends and after hours when access to campus food and beverage service might not be available
- 1- Storage space for supplies – bond paper, up to 20 cartridges of toners and other supplies, plus a small space for hardcopy grant documents
- 17- Vehicles on Saipan - their cars are not parked in reserved locations around the campus. Protected and dedicated parking stalls are requested
- 1- Delivery or Receiving Dock as part of the Economic Development Administration (EDA) Grant, located on the first floor of the CREES Building

AQUACULTURE AND NATURAL RESOURCES PROGRAM SPACES

- 1- Classroom
- 1- Office
- 2- Aquaculture Lab
- 1- Hatchery 10, 000 larvae per tank – 2 tanks
- 1- Root stock for shrimp crustaceans
- 1- Culture for zoo plankton - grant funded
- 2- Demonstration grow out space for 3 phase tank arrangement
- 1- Covered Boat House for two containers housing the boats
- 1- Empty space 40' x 60' is planned for hydroponics / aquaponics demonstration (total space 100' x 150' area is their current space on campus)
- 1- Has a deep well to access salt water
- 5- Staff anticipated for the program

ADULT BASIC EDUCATION

Adult Basic Education is an important program for the community providing services to non-traditional students and empowering clients to improve their quality of life and integrate into society in some cases.

Adult education also provides educational services to clients who may be incarcerated for in the process of re-integrating back into society.

Classes were held online during the pandemic however this is not optimal for many ABE clients who may lack resources or access to online classes. Predictably the program experienced a significant reduction during the pandemic.

7-9 ABE Faculty instructor's Offices

1- Program Coordinator for the English Lab

1- Department Chair Office

Coursework includes both college level and pre-college level courses needed to attain college level coursework. The typical class size for English 101, Speech, Foreign Language and English Language Institute (for all courses under 101) were (large prior to the pandemic and typhoons) with classes of 40 - 50 students.

Coursework Included courses at the 70- level, 80-level and 90-level. English Lab sizes were similar or in some cases larger. Pre-Yutu classes and Labs were held in the larger Classrooms for Speech.

The enrollment has dropped with the transition to online courses to a range of 20-25 students for classes that previously held up to 50 students.

This program may benefit from flex-space which allows for larger class sizes with space for breakout activities. Movable dividers may be used to create working group spaces.

Currently there are about 80 - 85 students enrolled most of whom are non- degree students.

English Lab space should accommodate 20 computer stations as well as space for 1 on 1 tutoring.

The school requires workspace for students to prepare assignments and use resources as many do not have viable study space away from campus.

Workspace's utilization is very high and is busy all day for below 101 classes (i.e., English 85) Monday -Friday and open on Saturday.

4 Tutors alternate schedules with 2 working mornings and 2 working afternoons. The tutor staff is expected to increase to 6 when the College returns to a conventional schedule.

Typically, activity tables will be full for Lab, requiring storage for resources including reading comprehension materials, SRA's reading comprehension sheets with sections, writing assignment books and listening programs for computers.

Projected Lab operations are from 7:00 am to 7:00 pm and 9:00 am to 12:00 pm on Saturdays. Lab is required for Non-Degree Units (NDU).

NMC has a large foreign student enrollment studying in below 101 level courses that requires more Lab (70' level and 80's level) and listening Lab time.

Note: College level students do not have access to these Labs but instead are employed. Project Proa provides Labs for the Educational Enrichment Center.

Typically, the ABE faculty all have their own office space and do advising as well, so privacy is desired for meetings with students. Space for a desk and bookshelves is necessary.

Program Adult Basic Education

This is a federal program so there is a 12-month contract period for employees.

Program coordinators Faculty provides Counseling, and all staff teach Language Arts and Math

- 1- Program Coordinator
- 1- Program Manager
- 1- State Director
- 1- Teacher Aides
- 2- Work study

Reintegrating students are isolated for tutoring and testing.

Students typically do not have digital devices. This is very challenging situation due to low-income. Many students use their cell phones to check into classes, sometimes relying on prepaid loads.

Classroom population is 15, on average, but shifted down to 6 during the pandemic.

The Correctional client's program is a combination of online and in-person learning. Some correctional clients have restrictions on interaction with the general population.

Limited circulation and interaction may be necessary so instructional space located on the perimeter of the campus may be desirable.

In general, many ABE students travel by COTA so proximity to a bus stop on campus is important.

The program is partnered with Workforce Investment Agency Office (WIA) of Vocational Rehabilitation (OVR). These programs provide workplace training and includes a career academy online with workshops every Friday for activities including generating resumes and job search, etc.

Lab space for these programs is typically not shared because of conditions on federal grant funds. Test Administrators must be trained specifically for adult education and are federally funded. Lab spaces are open to 7:00 pm.

Provide a workspace (office or station) for adjunct faculty.

Office of Vocational Rehabilitation must accommodate special needs students.

Adult Basic Education has 200 students (excluding OVR and WIA).

The program provides 4 sessions during a program year with 60- 100 students per session, including Rota and Tinian.

The program provides instruction to incarcerated clients but faculty who goes to the Adjunct for Corrections typically do not go to the campus. Most of the instruction is done after hours and at the Correctional Facility.

Adult Education seeks to accommodate students and can adjust schedules for evenings or Saturdays for coursework depending on request from the student. Testing is done on Saturdays.

COMMUNITY DEVELOPMENT INSTITUTE (CDI)

CDI programs provide training and support for residents, businesses, Government agencies, and community organizations. CDI provides community courses, non- traditional courses, customize training, specialized academic courses, workforce & community-based learning.

- Customized Courses- for personal, professional, and career needs
- Creative Scheduling to accommodate stakeholders
- On-Site Instruction at stakeholder's location
- Courses are conducted on Saipan, Tinian, and Rota
- Continuing Education Units (CEUs) and course certification
- Access to NMC Courses, Services and Facilities
- Accelerated NMC Academic and Non-Academic Courses and Certification
- Certificates, Associates, Bachelors, Masters, or Ph.D. Program facilitation

The school is currently staffed under their target compared to previous years.

CURRENT STAFFING

- 1- Director
- 1- Program Manager
- 1- Grants Officer
- 1- Additional Grants Officer
- 1- Apprenticeship Program Coordinator
- 1- CNMI Area Health Education Center (AHEC)
- 1- Work study staff

PROJECTED STAFF

- 6- Staff
- 4- Work-study (adding 3)

Collaborative partners and colleagues include THE Fire Department, Law Enforcement and other local organizations.

CDI PROGRAM SPACES

- 1- Large Conference Room
- 1- Multipurpose Space – flex space with movable partitions or dividers that can be moved to make small group workspaces
- 1- Restrooms
- 1- Reception and Waiting Area

- 1- Computer Lab space
- 1- International Students space to house the contract student groups with hotels to host Hospitality and English Language Training
- 1- International English Classes
- 2- Training and universal learning

EQUIPMENT LIST

Video Conferencing

Teleconferencing capability

Video Production

Recording lectures and public announcements with microphone and audio controls

CDI desires a corporate appearance for meetings when they are presenting or hosting business partners or hotels, etc. as existing or potential clients / collaborators.

Instruction for CDI may be shifting to Universal Design for Learning.

Office of Technology indicated OIT will be working with CDI where standardized equipment is recommended

OFFICE OF STUDENT ACTIVITIES AND LEADERSHIP

The Office of Student Activities and Leadership (OSAL) is dedicated to enriching the student learning experience by providing activities that develop leadership qualities, character, responsibility, positive work ethics and teamwork. The Office works closely with the Associated Students of the Northern Marianas College (ASNMC) to sponsor and prepare activities to encourage student interaction and to help build knowledge and understanding of the student support resources that the College makes available. The Office of Student Activities and Resources also acts as host for both the Student Lounge and the International Student Lounge. OSAL's activity programs include 15 – 20 activities each calendar year ranging in size from small group activities to campus- wide events with 300 - 400 participants.

PROGRAM SPACES

- 1- Student Lounge area

- 1- Games and Recreation Room – game consoles, table tennis, billiards
(Include Flat screen TV, wireless printers and Bluetooth features).

- 1- (Bowling Alley may not be viable) Arcade Games space

- 5-7 Space for Student Leaders / Officers
- 1- Storage space for all the activities equipment, graphics, banners etc
- 2- Staff workspaces, current staff shares an office with 2 work study students
- 2- Advisors Offices

- 1- Meeting space for 10-15 attendees
- 7-10 Space for 7 -10 student organizations
- 1- Kitchenette Area (with sink & refrigerator) to prepare food for meetings
- 1- Office for the Department head of the program
- 1- Workspace for second full time Coordinator
- 1- International Student Lounge adjacent to OSAL

EXECUTIVE AND ADMINISTRATION OFFICE SERVICES

The Executive Offices house the Conference Room for the Board of Regents along with the offices for the President and the Vice President of the College. These are the most formal spaces on the campus and intended to receive and host meetings with external guests and supporters of the College. The executive offices do not necessarily interface with students or instructional topics but instead focus on governance of the College.

PROGRAM SPACES

- 1- Board of Regents Conference Room with AV and virtual capability
- 1- Kitchenette
- 1- Storage room for AV Equipment and FFE
- 1- Restrooms for Conference area
- 1- Executive Secretary to the President and Vice President
- 1- Administration equipment and file storage
- 1- Reception Room and Waiting space.

NMC FOUNDATION

The NMC Foundation (NMCF) is a non-profit group whose purpose is to acquire, manage, and disburse financial tools from alternative sources to help advance NMC's educational programs and services. The NMC foundation team is composed of volunteers, who are dedicated to improving higher education in the CNMI by encouraging private and public support for NMC.

The Foundation currently shares space with the Office of Institutional Advancement including meeting space. OIA and NMCF collaborate frequently.

The NMCF and OIA also use the Board of Regents Conference Room when needed.

Similar to OIA NMCF is a small team with the Foundation Coordinator supported by 2 Work study students.

A small meeting room for 5 people that can also serve as work preparation room is desirable.

OFFICE OF INSTITUTIONAL ADVANCEMENT (OIA)

The Office of Institutional Advancement (OIA) is the chief creative center for the College and guides external marketing and supports public relations elements of the College. The OIA also provides support for the NMC Foundation Office. The team is relatively small with 3 full time faculty and support from Work study. The office has received national recognition for its work and manages the NMC website.

OIA handles an impressive workload with graphics, marketing tools, recording, advertisements, public information and serving as the stewards of the NMC brand and image in the public realm.

The OIA has dual roles supporting the activities of the NMCF and managing the external marketing for the College.

Currently the program has a small Conference Room where they meet with visitors, it fits about 5 people. They would like to have a room to accommodate a larger group, otherwise they use the Board Room.

Do not currently have a creative workspace. They use the same Conference Room for meetings noted above as well as for printing, binding and compiling marketing graphics.

The office currently has a small storage space for banners and other event graphics.

The OIA is not anticipating any additional staff, although additional Work study support should be programmed for the space.

Multi-media space is a key program element that is needed, properly proportioned for the activities and equipment.

OIA equipment includes large-scale, wide format printers used for banners and other event graphics. OIA provides large format / high quality printing services for other Departments.

The space should be large enough to accommodate a 7-foot wide glass backdrop 7-green screen with space to allow positioning of mobile lighting, backdrops and other staging objects, etc.

Studio / recording space is needed in a size to accommodate equipment and allow movement, placement of lighting, and acoustical controls and damping.

Donors, business partners and customers are entertained in the field or in other meeting spaces. Visitors are in the office around events like the golf tournament for meeting with the Foundation Coordinator.

Open workstations may be suitable for Work study. An open collaborative work environment is preferred for the primary personnel who meet with marketing specialist from partner agencies. The Foundation Coordinator meets with clients and potential donors. Meetings with models for advertisement campaigns may occur in the Office.

The OIA may be located near the Executive Offices if it is convenient and provides for shared use of the Stage backdrop and recording audio in the Board Room that has a large logo for videos and photo shoots.

Radio recordings are created in the Office. An 8' x 8' or larger booth is recommended for staging equipment.

Products from the OIA are often delivered offsite so convenient access/egress to move graphics and props is desirable.

Proximity partners they work Office of Student Activities and Leadership (OSAL) – also work with Admissions for recruitment and schedules at the start of the year, and prep ads for events, etc.

Currently OIA a building with both admissions and with OSAL so they can collaborate easily. CIA Can be located on the second floor- as long as it is ADA accessible.

FACILITIES

This office is responsible for maintenance, sanitation, repairs, property upkeep and in-house modifications / construction. Facilities consists of 2 sections of service- Building Maintenance & Janitorial Service.

Facilities should be located adjacent to a road for access by trucks and deliveries vehicles. The facility should be neat, but not generally attractive so exposure should be screened in some way.

STAFFING

4- Building Maintenance

4- Facilities

Facilities staffing is expected to increase as construction of new buildings is completed and the building inventory becomes larger and more complex. Program recommendations are provided as requested by the Facilities staff include the following:

- 1- Materials Management
- 1- Staging Area
- 1- Maintenance Office
- 1- Break Room with table and chairs
- 1- Workshop
- 1- Locker Rom / Restrooms with showers
- 1- Laundry space
- 1- Secure or chemical storage space(s)
- 1- Tool Storage
- 1- Warehouse
- 1- Supplies storage
- 1- Secure gated area, for vehicles and equipment

The current square footage of Facilities is unknown. Recommendations are provided based on comparable to support facilities elsewhere.

Facilities currently has conventional trucks but no heavy equipment. Recommendations for equipment were requested from the Planning team.

Facilities would like to have roll-up doors for the Warehouse. Security of tools, equipment and vehicles is a concern. Construction may include masonry walls at perimeters and / or CCTV, alarms, etc.

Some controlled access is necessary for tool storage and chemical storage (gasoline, kerosene, blow torches, muriatic acid etc.), storage for portable generators

Facilities racking system and quantity for the warehouse.

Trash pick-up: pre-Covid, there were 2 trash pickups and 2 bins located on campus. The campus does not currently have a sorting and recycling program but expect to moving forward. Sorting and recycling will be required for LEED certification of the campus and subsequent buildings.

Current recommendations indicate the anticipated tonnage for the campus will likely double the trash pick-ups. Trash sorting will also require modifications to the trash contracts to include recycling and food waste diversion.

Facilities would like to include stations for Building Maintenance:

- Supply Rooms

- Safe Storage for fuel, chemical s and special equipment
- Areas for maintenance and janitorial staff in each building and near large courtyards and open spaces

Facilities needs secure storage for valuable equipment - lawn mowers, bush cutters, portable generators, etc.

Facilities will be responsible for emergency generator maintenance on the campus. The FMP calls for redundant (multiple) emergency generators for resilience in case of a malfunction or damage to a single unit.

APPENDIX C

Reference List for Design guideline

Figure	Reference List Entry
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